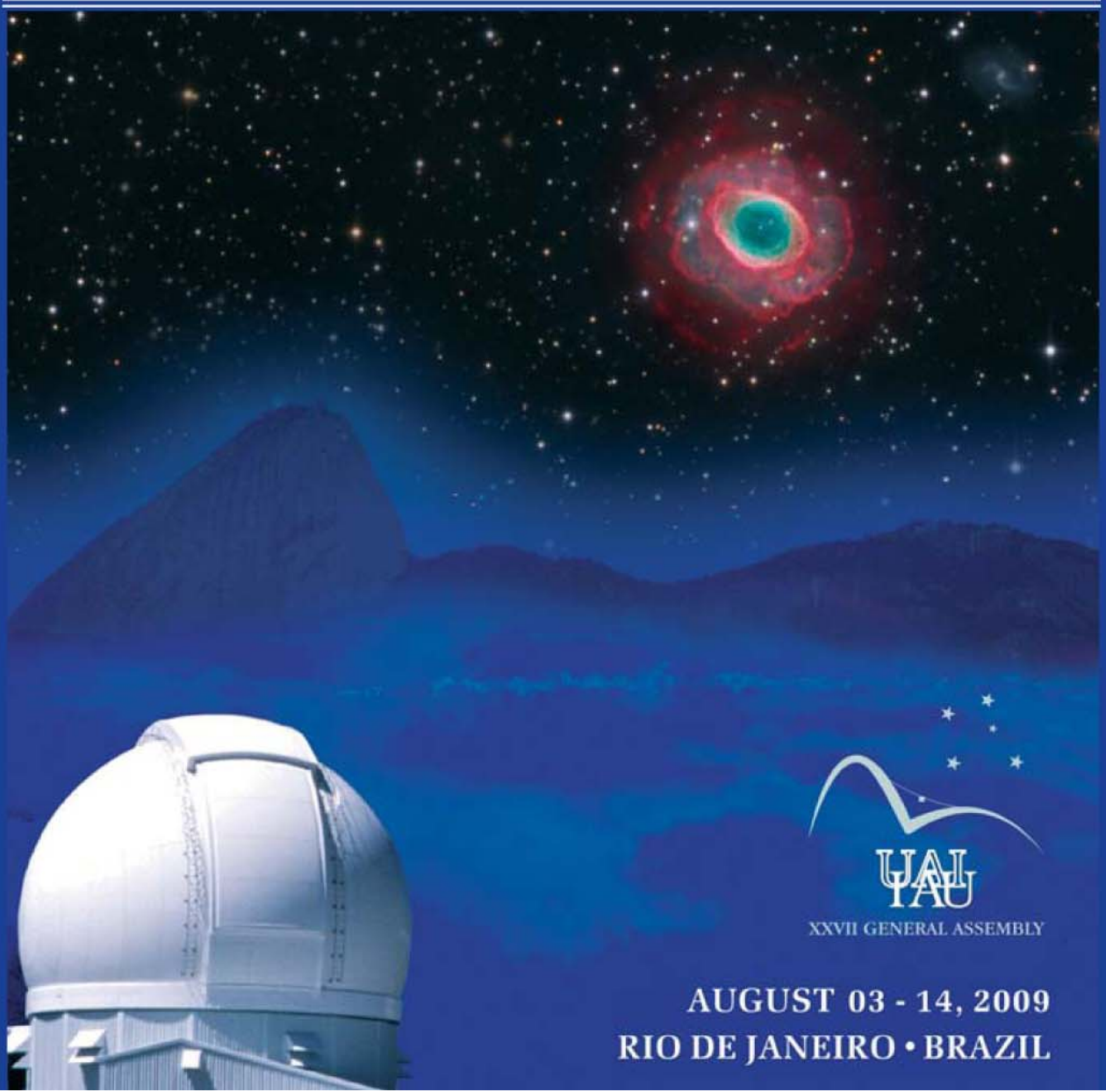
INTERNATIONAL ASTRONOMICAL UNION

UNION ASTRONOMIQUE INTERNATIONALE



INFORMATION BULLETIN JANUARY 2009

103

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* * *

PART II

* * *

Preface

At the IAU General Assembly in Sydney in 2003, Franco Pacini, President of our Union, introduced the idea that 2009 be declared International Year of Astronomy (IYA2009) to celebrate Galileo and his introduction of the telescope in astronomical observations and the subsequent revolution in human-kind's perception of the universe. A resolution to that effect was received with enthusiasm by the IAU General Assembly.

Much has happened since the IYA2009 IAU resolution was passed. In October 2005, we obtained the support of UNESCO, our partner in many IYA2009 activities. In December 2007, after intensive lobbying, the United Nations unanimously adopted a resolution submitted by the Italian Delegation. To quote from this resolution:

"The General Assembly

Convinced that the Year could play a crucial role, inter alia, in raising public awareness of the importance of astronomy and basic sciences for sustainable development, promoting access to the universal knowledge of fundamental science through the excitement generated by the subject of astronomy, supporting formal and informal science education in schools as well as through science centres and museums and other relevant means, stimulating a long-term increase in student enrolment in the fields of science and technology, and supporting scientific literacy […]

Decides to declare 2009 the International Year of Astronomy.***"***

The recognition of IYA2009 by the UN has allowed us to involve many more countries than would otherwise have been possible; we are now at 136, and our goal of 140 countries appears well within reach.

Meanwhile, in August 2006, we had set up an IYA2009 Working Group (WG) of the IAU Executive Committee to define and oversee the preparations for the celebration**.** One of the first tasks of the WG was to organize the first IYA meeting in Garching, in March 2007, which enabled us to outline the vision and goals of IYA2009, to start defining the main global projects (called Cornerstones), and to agree on the logo and the motto: *the Universe yours to discover*. Equally important was the establishment of an IYA Secretariat to coordinate IYA activities at the global level. Lars Christensen, the IAU Press Officer,

accepted the additional task of managing the Secretariat and promptly recruited Pedro Russo as the Coordinator, supported during the past year by Mariana Barrosa. Hosted by ESO in Garching, the IYA Secretariat has been extremely active and successful in promoting activities and in linking countries and regions. The readers of this Bulletin have been regularly informed of the progress made.

One important activity, also carried out by the IYA Secretariat, is fund raising. At present, the main donor to IYA2009 is Thales-Alenia Space, a high tech company involved in the development of several large astronomy projects, followed by Celestron, a well-known builder of amateur telescopes and planetaria. The bulk of the funds were provided, in small amounts, by a large number of astronomical institutions from all over the world, which I want to thank here. These generous donations, supplemented by an IAU contribution, have made it possible not only to maintain the IYA 2009 Secretariat, but also to cover some of the expenses of the opening ceremony, to produce brochures and glossies, and to provide partial funding to the Cornerstones – if not at the level we had originally hoped. We are planning to pursue this effort throughout 2009, also with a view towards cultivating the rich legacy that is expected to endure beyond the end of the year. But that is another story …

The status of IYA 2009 is summarized in section § II.8 of this *Bulletin*, while a complete overview as well as updates on IYA are best obtained by visiting our website <www.astronomy2009.org>. The Opening Ceremony, held at the UNESCO building in Paris on January 16 and 17, 2009 was a truly extraordinary and memorable event. For this, we have to thank Françoise Combes, the main organizer. The Opening Ceremony was recorded and can be replayed on the IYA website. After opening addresses by the UNESCO Director General, by me and by government representatives from various countries, an audience of over 900 was treated to superb presentations about the most fascinating topics of contemporary astronomy, as well as illuminating history talks.

I would like to conclude this introduction by reminding my fellow astronomers, readers of this bulletin, that this is the year in which we wish that everybody on Earth thinks at least once about the wonders of the sky and hears or reads about astronomy's contribution to culture, its history, our latest discoveries and future prospects. This requires your help and involvement; I count on each and every one of you to ensure that IYA2009 is a success in your area.

Catherine Cesarsky, President IAU, chair EC WG IYA2009

Faits divers

This IAU *Information Bulletin* 103 is essentially an update of IB 102, with further information on the IAU XXVII General Assembly in Rio de Janeiro, 3-14 August 2009, in Part I, and the regular IAU information in Part II.

On 17 September 2008, President-Elect Bob Williams participated in the Gruber Cosmology Prize 2008 award ceremony in Cambridge, MA, USA (see § II.6.1.1 of this *Bulletin*).

On 30 October 2008, the General Secretary met with UNESCO Director General Mr. Koïchiro Matsuura to sign an MoU on cooperation between the IAU and the UNESCO World Heritage Center on the Thematic Initiative Astronomy and World Heritage. Subsequently, IAU Commission 41 on *History of Astronomy* initiated a new Working Group on *Astronomy and World Heritage* to implement the calls made in the MoU (see § II.8.1 of this *Bulletin*).

On 12 January 2009, the IAU Officers did meet at the IAU Secretariat in Paris for their annual meeting to handle current affairs and prepare for EC85. A brief report is given in § II.2.1 of this *Bulletin*. The entire EC will meet on 7-8 April in Paris for its EC85 meeting to prepare further for the General Assembly.

The past half year saw a continuation of impressive actions and planning by the EC Working Group on the *International Year of Astronomy 2009*, culminating in the international Opening Ceremony of IYA2009 at UNESCO Headquarters in Paris, 15-16 January 2009 (see Preface and § II.7 of this *Bulletin*). IAU President Catherine Cesarsky has attended national IYA2009 opening ceremonies in a number of European countries and met with great enthusiasm at all levels.

At the IAU Secretariat, Mme Reuter (Executive Assistant) continues to be assisted by Mme Maïténa Mitschler (data base assistant) and part-time by Mme Ginette Rude (archive assistant). Maintenance and development of the IAU data base and web site, contracted to ESO (Garching-bei-München, Germany), continue to be handled very capably by Lars Lindberg Christensen, Lars Holm Nielsen, Luis Clara Gomes, and Raquel Y. Shida.

PART I of this *Bulletin* presents the currently available information on the IAU XXVII General Assembly in Rio de Janeiro, Brasil, 3-14 August. Our Brazilian colleagues and the IAU EC are looking forward to welcoming a huge proportion of the IAU membership, as well as many potential IAU members and otherwise interested astronomers from all over the world. I encourage all astronomers to take note of the offered program and to make sure to register in time for the GA. I realize that in these politically and economically volatile times things have not become easier lately. But I hope that astronomers all over the world will give priority to what we share only once every three years: an IAU General Assembly.

Karel A. van der Hucht, General Secretary,

Paris, 29 January 2009

XXVII GENERAL ASSEMBLY

AUGUST 03 - 14, 2009
Rio de Janeiro - Brazil

The IAU XXVII GENERAL ASSEMBLY is organized by

The Brazilian Astronomical Society

IAU XXVII GENERAL ASSEMBLY
RIO DE JANEIRO, BRAZIL, 3-14 AUGUST 2009

Welcome message from the National Organizing Committee: see IB 102.

I.1. GENERAL INFORMATION

I.1.1. VENUE OF THE IAU XXVII GENERAL ASSEMBLY

The Centro de Convenções SulAmérica, formerly known as "Rio Cidade Nova" and inaugurated in July 2007, will host the IAU XXVII General Assembly from Monday 3 to Friday 14 of August, 2009.

Located in Cidade Nova, a central region of Rio de Janeiro, the complex occupies an area of 16 thousand square meters, with almost 42 thousand square meters of conference space. It is easily reached from almost everywhere in Rio through the Rio de Janeiro city integrated transport system and the nearby Metro station Estácio-CidadeNova.

The premises of the Centro de Convenções SulAmérica include an historic three storey building called *Solar*. Construction of the building started in 1869. In 1907, the building was reconstructed and adapted to host the Children's Hospital of Santa Casa de Misericórdia. The façade is an historicist inspiration influenced by the Italian "palazzo" architecture of the 16th Century. The house survived the radical urbanist interventions in the districts of Cidade Nova and Estácio during the 1970's and the 1980's. On 31 January 1997, the building was put under government protection through a Municipal Decree.

The SulAmérica Convention Center is run by Transamérica Eventos.
Address:

Centro de Convenções SulAmérica
Av. Paulo de Frontin com Av. Pres. Vargas
Cidade Nova
20260-010 Rio de Janeiro
Brazil
Phone 55 21 3293 6700
URL <www.ccsulamerica.com.br>

For more information, see <www.astronomy2009.com.br/venue.html> .

I.1.2. PARTICIPATION

Attendance at the IAU XXVII General Assembly (GA2009) is automatically open to all Individual Members of the IAU. Professional astronomers who are not IAU-member are equally welcome to attend, upon invitation.

Invitations to professional astronomers who are not IAU-member to attend GA2009 will be issued by the IAU General Secretary, with copies to the Brazilian NOC of GA2009.

Please note that an invitation from the IAU General Secretary to attend GA2009 does not imply any financial commitment towards the invitee by the IAU Secretariat or by the Brazilian NOC.

Requests for invitation to GA2009 from professional astronomers who are not IAU-member should be directed to the Chairperson or Secretary of the National Committee for Astronomy in the country of residence (please consult <www.iau.org/administration/membership/national/nca>), or to the Chairperson of the SOC of one of the GA2009 Symposia, Joint Discussions and Special Sessions (see <www.iau.org/science/meetings/future>) .
These chairpersons will forward the invitation requests with their recommendations to the IAU Secretariat.

Each GA2009 participant (IAU Individual Member or non-Member participant) may register accompanying guest(s). Registered guests are not allowed to attend the scientific sessions (except for the Invited Discourses), but otherwise will enjoy the same privileges as participants.

I.1.3. REGISTRATION FEE

The registration fees for the IAU XXVII General Assembly are as follows *(in Brazilian Real – BRL)*:

	early **1 Nov. - 1 May** **(BRL)**	**regular** **2 May - 24 July** **(BRL)**	**on site** **3 - 14 Aug.** **(BRL)**
IAU members & non-member participants	900	1000	1200
students & seniors	300	300	400
registered guest & children over 11 years	300	400	500
children up to 11 years	free	free	free

To apply for the Student Fee, the applicant must be under 35 years of age and a personalized letter, signed by the head of his/her university or institutional department, must be sent by fax or e-mail to the Conference Secretariat (JZ Congressos). The registration will be processed only after this letter has been received.

To apply for the Senior Fee, the applicant must be over 70 years of age and a copy of a valid ID is requested to be sent to the Conference Secretariat (JZ Congressos) by fax or e-mail. The registration will be processed only after this document has been received.

No registration will be confirmed until payment has been received.

I.1.4. HOW TO REGISTER

The Registration Server is online since 1 November 2008, together with the Abstract Server for the different meetings and events of the IAU XXVII General Assembly.

Participants can register on-line using the registration form provided at <www.astronomy2009.com.br/registration.html>. Participants who are unable to use this on-line form should contact the Conference Secretariat (JZ Congressos) for instructions on how to proceed.

I.1.4.1. Confirmation of registration

When the registration form and payment have been processed, the registrant will receive written confirmation by e-mail. This confirmation letter should be presented at the GA registration desk upon arrival in order to receive the conference material.

I.1.4.2. Registration cancellation policy

The Conference Secretariat must be notified of a cancellation of the registration in written form. The appropriate refunds will be made after the Conference. The following cancellation policy applies:

- cancellations before 3 July 2009:
    - full refund of the registration fee minus a handling fee of 20% on the paid value
- cancellations on or after 3 July 2009:
    - no refund

For further details, see <www.astronomy2009.com.br/registration.html> .

I.1.5. HOW TO MAKE PAYMENTS

Credit card payment will be accepted for all payments made for the IAU XXVII General Assembly. Credit cards accepted are VISA and Mastercard.

I.1.6. ACCOMMODATION

Matters concerning accommodation, tours and sightseeing in connection with the IAU XXVII General Assembly will be handled by the official GA Travel Agency, Blumar Incoming Tour Operator & DMC. Reservations are to be made through BLUMAR's reservation web site, dedicated specifically to the IAU XXVII General Assembly.

The NOC and Blumar have done their best to offer reduced rates for GA participants in hotels of all categories. Below are indicative price ranges for different hotel categories.

hotel category	**price range (BRL)**
5 star	340 - 660
4 star	246 - 390
3 star	195 - 246
2 star	127 - 170
1 star	100 - 140
hostels	30

For further information, see
<www.astronomy2009.com.br/accommodation.html> .

I.1.7. VISA INFORMATION

A list of the tourism and business VISA regime for Brazilian citizens visiting foreign countries is provided on the IAU General Assembly web page at
<www.astronomy2009.com.brl>

Since the Brazilian authorities follow a reciprocity policy with respect to the consular and diplomatic affairs, this list can be used as a guide for citizens of foreign countries who wish to visit Brazil. However, when planning a trip, it is mandatory to confirm the validity of this information with the Brazilian diplomatic representation of the traveller's country of origin.

At present, citizens of the following countries may enter Brazil and stay for up to 60 or 90 days without needing a visa:

Andorra, Argentina, Austria, Bahamas, Barbados, Belgium, Bolivia, Bulgaria, Chili, Colombia, the Czech Republic, Costa Rica, Croatia, Czech Republic, Denmark, Ecuador, Finland, France, Germany, Greece, Guyana, Guatemala, Honduras, Hungary, Iceland, Ireland, Israel, Italy, Republic of Korea, Liechtenstein, Luxembourg, Macau, Malaysia, Malta, Morocco, Monaco, Namibia, Netherlands, New Zealand, Norway, Panama, Paraguay, Peru, Philippines, Poland, Portugal, Romania, San Marino, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Suriname, Thailand, Trinidad and Tobago, Tunisia, Turkey, United Kingdom, Uruguay, Vatican, Venezuela.

This list may be subject to change. Participants are advised to check with the Brazilian embassy in their respective country. Information on commercial tourist sites is often outdated or inaccurate.

At present, citizens from all other countries do need a tourist visa to enter in Brazil. The tourist visa covers attendance at scientific conferences, seminars, or meetings. Tourist visa holders are not allowed to engage in any paid activity in Brazil, but they may receive per-diem allowances.

In order to request a tourist visa, it is necessary to contact the nearest Brazilian Consulate. A full official list of the Brazilian Embassies, Consulates, Vice-Consulates, Delegations, Missions and Offices around the world can be found at <www.mre.gov.br//ingles/endereco/endereco.asp>

American citizens should be aware that it might take more than one month to obtain a visa. For other citizens, it should usually take a couple of weeks or less. Please note that for ALL visitors, passports must be valid for at least six months, and a return ticket and proof of sufficient funds may be requested upon arrival.

For further information, see <www.astronomy2009.com.br>.

I.1.7.1 Personal invitation from the NOC for visa purposes

On request and for visa purposes only, an official personalized invitation can be issued by the NOC for IAU XXVII GA participants. Required information: full name, date of birth, place of birth, country of citizenship (country which issued your passport), passport number, date and place of issue of passport, and date of expiration of passport. Please inform the chair of the NOC of your request.

I.1.8. FINANCIAL SUPPORT TO ATTEND THE GA

A limited number of IAU Travel Grants to attend the IAU XXVII General Assembly will be available for young astronomers and astronomers from less privileged countries. Those who feel qualified and who plan to participate actively in the General Assembly may complete and submit an IAU GA Travel Grant Application Form, available on-line at the GA registration web site <www.astronomy2009.com.br/>. ***Application deadline: 1 March 2009.***

I.1.9. IMPORTANT DATES

2009

Application for IAU GA Grants closes ..... 1 March
End of on-line submission of abstracts *(revised date!)* ..... 31 March
Notification of IAU GA Grants .....1 April
SOC programme review and completion *(revised date!)* .....1 May
Notification of abstract acceptance *(revised date!)* .....1 May
End of early on-line registration *(revised date!)* ..... 1 May
Beginning of regular on-line registration *(revised date!)* ..... 2 May
Accepted abstracts may be revised ..……..... .....15 May - 15 June
Media accreditation on-line registration deadline .....24 July
End of regular on-line registration ..... 24 July
Start of on-site registration ..... 3 August

I.2. ORGANIZATION

I.2.1. Committees and sub-committees

National Organizing Committee - NOC
- Barbuy, Beatriz (co-chair) - IAG/USP, <barbuy@astro.iag.usp.br>
- Bruch, Albert - LNA/MCT
- da Silva, Licio - SAB and ON/MCT
- de Araújo, Francisco Xavier - ON/MCT
- de Medeiros, José Renan - UFRN
- Janot-Pacheco, Eduardo - IAG/USP
- Kepler, Souza Oliveira - UFRGS
- Lazzaro, Daniela (chair) - ON/MCT, <lazzaro@on.br>
- Lorenz-Martins, Silvia - OV/UFRJ
- Maciel, Walter Junqueira - IAG/USP
- Pastoriza, Miriani G. - UFRGS
- Silva-Valio, Adriana - CRAAM
- Vaz, Luiz Paulo Ribeiro - UFMG
- Villela, Thyrso - INPE/MCT and AEB/MCT

Executive Sub-Committee - EsC
- Barbuy, Beatriz - IAG/USP
- da Silva, Licio - SAB and ON/MCT
- de Araújo, Francisco Xavier - ON/MCT
- Janot-Pacheco, Eduardo - IAG/USP
- Lazzaro, Daniela - ON/MCT

- Pastoriza, Miriani G. - UFRGS
- Vaz, Luiz Paulo Ribeiro - UFMG
- JZ Congressos

Finance Sub-Committee - FsC
- Barbuy, Beatriz - IAG/USP
- Bruch, Albert - LNA/MCT
- da Silva, Licio - SAB and ON/MCT
- Kepler, Souza Oliveira - UFRGS
- Lazzaro, Daniela - ON/MCT
- Lépine, Jacques Raymond Daniel - IAG/USP
- Vaz, Luiz Paulo Ribeiro - UFMG
- JZ Congressos

WEB Sub-Committee - WsC
- Alencar, Silvia Helena Paixão - UFMG
- Corradi, Wagner José Barbosa – UFMG
- Gregório-Hetem, Jane - IAG/USP
- Sant'Anna, Thiago - ON/MCT
- Silva-Valio, Adriana – CRAAM
- Vaz, Luiz Paulo Ribeiro (chair) - UFMG

Social Events Sub-Committee - SEsC
- Alencar, Silvia Helena Paixão - UFMG
- Cuisinier, François - OV/UFRJ
- de Gouveia Dal Pino, Elisabete M. - IAG/USP
- de La Reza, Jorge Ramiro - ON/MCT
- Franco, Gabriel Armando Pellegatti - UFMG
- Lorenz-Martins, Silvia (chair) - OV/UFRJ
- Machado, Maria Auxiliadora D. - UERJ
- Rodrigues, Teresinha - ON/MCT
- Silva-Valio, Adriana R. - CRAAM

Sponsorship Sub-Committee - SpsC
- da Silva, Licio - SAB and ON/MCT
- da Silva, Maria de Fátima Alvez - UERJ
- de Araújo, Francisco Xavier (chair) - ON/MCT
- Ferreira, José Leonardo - IF/UnB
- Porto de Melo, Gustavo F. - OV/UFRJ
- Roig, Fernando Virgílio - ON/MCT
- Villela, Thyrso - INPE/MCT and AEB
- JZ Congressos

Associate Events Sub-Committee - AEsC
- Bulgarelli, Domingos - Planetário do Rio de Janeiro

- Damineli, Augusto Neto - IAG/USP
- de Nader, Rundstein Vasques - OV/UFRJ
- Falcão, Douglas Silva (chair) - MAST
- Kleber, Antares - ON/MCT
- Videira, Antônio Augusto Passos - CBPF and UERJ
- JZ Congressos

Marketing & Media Sub-Committee - MMsC
- Barbosa, Cássio Leandro (chair) - UNIVAP
- Corradi, Wagner José Barbosa - UFMG
- de Araujo, Francisco Xavier - ON/MCT
- de Oliveira-Abans, Mariângela- LNA/MCT
- Machado, Maria Auxiliadora Delgado – UERJ
- Nassif, Ricardo – LNA/MCT
- JZ Congressos

GA-Newspaper Editorial Board
- Cid Fernandes, Roberto Jr. – CFM/UFSC
- Nogueira, Salvador (Technical Associate Editor) - Journalist
- Rocha Pinto, Hélio J. (Scientific Associate Editor) - OV/UFRJ
- Roig, Fernando Virgilio – ON/MCT
- Steiner, João Evangelista (Editor-in-Chief) - IAG/USP

For updates, see <www.astronomy2009.com.br/committees.html> .

I.2.2. GENERAL ASSEMBLY WEB SITE

Information, scientific programme, contacts, on-line forms and updates, regarding the IAU XXVII General Assembly will be available on the GA web site <www.astronomy2009.com.br/index.html>

I.2.3. GENERAL ASSEMBLY NEWSPAPER

Prof. Dr. João Evangelista Steiner is the Editor-in-Chief of the IAU XXVII General Assembly daily newspaper. Any proposal for communication in the GA newspaper should be sent to the following e-mail address:
<steiner@astro.iag.usp.br>

I.2.4. IAU XXVII GA PRESS OFFICE

The Press Office for the IAU XXVII General Assembly will be responsible for the contact with the press and the media, providing information and material

related to the meeting and to Astronomy in general.

The Press Office of the IAU XXVII General Assembly:

- Lars Lindberg Christensen (IAU Press Officer, international press)
- Cássio Leandro Dal Ri Barbosa (local press, NOC press contact)
- Raquel Yumi Shida (IAU Web Master)
- Pedro Russo (IYA2009 Coordinator)
- Lars Holm Nielsen (IAU Web Developer, technology, press photos)
- local assistants

Accreditation of the media will be done through a specific electronic form available at <www.astronomy2009.com.br/mediapress.html>. The deadline for submission of this form is July 24, 2009. A Confirmation Letter will be issued to accredited media and should be presented at the Registration Desk in order to collect the appropriate badge and material. After the above deadline, accreditation will be done only on-site.

For more information, see <www.astronomy2009.com.br/mediapress.html> .

I.2.5. GA CONTRACTORS

1.2.5.1. GA PCO: JZ Congressos

The IAU XXVII General Assembly will be administrated by JZ Congressos, who will be in charge of registration, exhibition, internet equipment, etc.:

JZ Congressos
R. Guilhermina Guinle, 272 / 2º and.
22270-060 Rio de Janeiro, RJ
Brazil
Tel: +55 21 2266-9150, Fax: +55 21 2266-9175
<astronomy2009@jz.com.br> <www.jz.com.br>

1.2.5.2. GA Tour Operator: Blumar Incoming Tour Operator & DMC

Blumar Incoming Tour Operator & DMC will be in charge of arranging GA accommodations as well as tours of the city and the country:

Blumar Incoming Tour Operator & DMC
Av. Borges de Medeiros, 633, salas 405 a 408
22430-041 Rio de Janeiro, RJ
Brazil
Tel: +55 21 2142-9300, +55 21 7835-2833, Fax: +55 21 2511-3739
E-mail: <operacao@blumar.com.br>

For local contacts in Rio de Janeiro, see
<www.astronomy2009.com.br/contacts.html>.

I.3. PRACTICAL INFORMATION

I.3.1. SOCIAL EVENTS

Interested participants may make arrangements using the Social and Tourist Programme on-line form at <www.astronomy2009.com.br>. The form should be submitted no later than June 1, 2009. After this date, requests can only be honoured on-site and depending on availability.

I.3.1.1. Inaugural Ceremony & Welcome Reception

The IAU XXVII GA Inaugural Ceremony will be held on Tuesday, 4 August 2009. The venue is still to be confirmed. The Inaugural Ceremony will start at 14:00 hr, immediately followed by Session 1 of the General Assembly. After this session, registered participants and guests are invited to join the welcome reception. This event is free of charge, but registration is mandatory, since a specific invitation will be issued and included in the Conference Material. Extra tickets will be available at a cost still to be defined.

I.3.1.2. Closing Banquet

The closing banquet is expected to take place at Pão de Acúçar (the Sugar Loaf mountain) on Wednesday, 12 August 2009. Registration for this event will be required, and further information will be given in due time.

I.3.2. TOURS

An interesting programme of one-day, half-day, pre/post tours, etc., in and around Rio de Janeiro has been prepared for the participants and their families. Details and reservation forms are provided on the General Assembly website <http://www.astronomy2009.com.br> under "Accomodation and Tours."

Bank transfers will be accepted only in special cases, upon request to the Conference Secretariat, which will provide the necessary information. Please note that in this case, all bank charges must be fully covered by the partici pant(s).

I.3.3. HEALTH AND SECURITY

All participants are strongly recommended to arrange for medical insurance for the duration of their stay in Brasil. The IAU and the NOC will not accept liability for sickness or accidents.

I.3.4. GENERAL INFORMATION ABOUT BRASIL

Full name of country	República Federativa do Brasil
Area	8.5 million km²
Motto	*Ordem e Progresso* (Portuguese), *"Order and Progress"*
Population (2008 estimate)	187.4 million
Capital	Brasília (15º45' S, 47º57' W)
Language	Portuguese
Government	Presidential Federal Republic
President	Luis Inácio Lula da Silva
GDP (2007 estimate)	USD 1804 trillion
per capita	USD 11 873
Currency, exchange rate (January 2009)	Brazilian Real ("R$"), USD 1 = R$ 2.20
Electricity	110 - 220 V (bring adaptor)
Police alarm phone number	190 or 3399 7170 for foreigners

Average climate Rio de Janeiro in August

Temperature	27º C (day) - 18º C (night)
Sunshine	10 hours per day
Rain	4 days per month

Time zone

Rio de Janeiro	GMT minus three hours

I.4. ADMINISTRATIVE MEETINGS, DEADLINES

I.4.1. XXVII GENERAL ASSEMBLY

General Assembly, Inaugural Ceremony	Tuesday 4 August, 14:00-16:00 hr
General Assembly, Session 1	Tuesday 4 August, 16:15-17:30 hr
General Assembly, Session 2	Thursday 13 August, 14:00-15:30 hr
General Assembly, Closing Ceremony	Thursday 13 August, 15:45-17:00 hr

I.4.2. NATIONAL MEMBERS

Deadlines 2008

Submission of Resolutions Type A (financial implications)	15 November
Submission of motions to amend Statutes and Bye-Laws	15 November

Deadlines 2009

Communication of motions to amend Statutes and Bye-Laws	5 February
Motions concerning the administration of the Union, not affecting the budget	15 February
Motions of a scientific character to be placed on the GA agenda	15 February
Nominations of new Individual Members due at the IAU Secretariat via the IAU website	15 March
Submission of Resolutions Type B (no financial implications)	15 May
Appointment of National Representatives	10 July
Appointment of Finance Committee Members	10 July
Appointment of Nomination Committee members	10 July

Meetings 2009

National Representatives

National Representatives Meeting	Monday 3 August, 14:00-14:45 hr
General Assembly, Session 1	Tuesday 4 August, 14:00-17:30 hr
National Representatives Meeting	Wednesday 12 August, 14:00-14:45 hr
General Assembly, Session 2	Thursday 13 August, 14:00-17:30 hr

Finance Committee

Finance Committee Meeting	Monday 3 August, 15:00-15:45 hr
General Assembly, Session 1	Tuesday 4 August, 14:00-17:30 hr
Finance Committee Meeting	Wednesday 12 August, 15:00-15:45 hr
General Assembly, Session 2	Thursday 13 August, 14:00-17:30 hr

Nominating Committee

Nominating Committee Meeting	Monday 3 August, 16:00-16:45 hr
General Assembly, Session 1	Tuesday 4 August, 14:00-17:30 hr
Nominating Committee Meeting	Wednesday 12 August, 16:00-16:45 hr
General Assembly, Session 2	Thursday 13 August, 14:00-17:30 hr

I.4.3. DIVISION PRESIDENTS

Deadlines 2008

Motions concerning the administration of the Union, not affecting the budget	15 February
Recommendations for creating, continuing, changing or discontinuing Commissions	15 February
Recommendations for creating, continuing, changing or discontinuing Working Groups	15 February
Submission of candidates for Division President, Vice-President and Organizing Committee for the next triennium	15 February
Nominations of new Individual Members due at the IAU	

Secretariat via the IAU website	15 March
Submission of Resolutions Type B (no financial implications)	15 May
Contributions for IAU Transactions XXVIIB due at the IAU Secretariat	1 October

Meetings 2009

Outgoing Division Presidents are invited to attend the:

86th Executive Committee Meeting	Sunday 2 August, 14:00-17:30 hr
86th Executive Committee Meeting	Monday 3 August, 11:00-12:30 hr
General Assembly, Session 1	Tuesday 4 August, 14:00-17:30 hr
86th Executive Committee Meeting	Wednesday 12 August, 11:00-12:30 hr
General Assembly, Session 2	Thursday 13 August, 14:00-17:30 hr

Incoming Division Presidents are invited to attend the:

General Assembly, Session 1	Tuesday 4 August, 14:00-17:30 hr
General Assembly, Session 2	Thursday 13 August, 14:00-17:30 hr
87th Executive Committee Meeting	Friday 14 August, 09:00-17:30 hr

I.4.4. COMMISSION PRESIDENTS

Deadlines 2009

Submission of candidates for Commission President, Vice-President and Organizing Committee for the next triennium	15 February
Submission of Resolutions Type B (no financial implications)	15 May

Meetings 2009

Outgoing Commission Presidents are invited to attend the:

Meeting of the Commission Presidents	Monday 3 August, 17:00-17:45 hr
General Assembly, Session 1	Tuesday 4 August, 14:00-17:30 hr
General Assembly, Session 2	Thursday 13 August, 14:00-17:30 hr

Incoming Commission Presidents are invited to attend the:

General Assembly, Session 1	Tuesday 4 August, 14:00-17:30 hr
Meeting of the Commission Presidents	Wednesday 12 August, 17:00-17:45 hr
General Assembly, Session 2	Thursday 13 August, 14:00-17:30 hr

I.4.5. CALENDAR OF BUSINESS MEETINGS

(August 2009 dates (in bold) - sessions numbers; room numbers tbd later)

DIVISION I FUNDAMENTAL ASTRONOMY **3** - 2, 3, 4

	4 - 2
Div. I / Commission 4 – Ephemerides	**7** - 4
Div. I / Commission 7 – Celestial Mechanics and Dynamical Astronomy	**4** - 2
Div. I / Commission 8 – Astrometry	**10** - 2, 3, 4
Div. I / Comm. 8 / WG – Densification of the Optical Reference Frame	**10** - 2, 3, 4
Div. I / Commission 19 – Rotation of the Earth	**5** - 3, 4
Div. I / Commission 31 – Time	**7** - 3
Div. I / Commission 52 – Relativity in Fundamental Astronomy	**7** - 3, 4
Div. I / WG – Numerical Standards in Fundamental Astronomy	**5** - 2
Div. I / WG – Astrometry by Small Ground-Based Telescopes	**7** - 4
Div. I-III / WG – Cartographic Coordinates and Rotational Elements	**6** - 1, 2
DIVISION II – SUN AND HELIOSPHERE	**7** - 1, 2, 3, 4
	10 - 2, 3, 4
DIVISION III – PLANETARY SYSTEMS SCIENCES	**10** - 2, 3
	12 - 4
Div. III / Commission 16 – Physical Study of Planets and Satellites	**13** - 1
Div. III / Commission 22 – Meteors, Meteorites and Interplanetary Dust	**7** - 3
Div. III / Comm. 22 / TF – Meteor Shower Nomenclature	**4** - 2
Div. III / Commission 51 – Bioastronomy	**12** - 3
Div. III / Commission 53 – Extrasolar Planets	**12** - 2
Div. III / WG – Committee on Small Bodies Nomenclature	**11** - 2
Div. III / WG – Planetary System Nomenclature	**7** - 4
DIVISION IV – STARS	**7** - 3
Div. IV / Commission 26 – Double and Multiple Stars	**7** - 1
Div. IV / Commission 29 – Stellar Spectra	**7** - 4
Div. IV / Commission 35 – Stellar Constitution	**7** - 4
Div. IV / Commission 36 – Theory of Stellar Atmospheres	**7** - 4
Div. IV / Commission 45 – Stellar Classification	**7** - 1
Div. IV-V / WG – Active B-type Stars	**6** - 1, 2
Div. IV-V / WG – Ap and Related Stars	**7** - 2
DIVISION V -- VARIABLE STARS	**6** - 1, 2, 3, 4
Div. V / Commission 27 –- Variable Stars	**5** - 3

Div. XII / Comm. 5 / WG – FITS Data Format	**5** - 3
Div. XII / Comm. 5 / WG – Virtual Observatories, Data Centers and Networks	**4** - 2
Div. XII / Comm. 5 / TF – Preservation and Digitization of Photographic Plates	**5** - 4
Div. XII / Commission 6 – Astronomical Telegrams	**10** - 2
Div. XII / Commission 14 – Atomic and Molecular Data	**7** - 1, 2
Div. XII / Commission 41 – History of Astronomy	**5** - 2, 3, 4
Div. XII / Comm. 41 / WG – Archives	**11** - 2
Div. XII / Comm. 41 / WG – Astronomy and World Heritage	**6** - 1, 2, 3, 4
Div. XII / Commission 46 – Astronomy Education and Development	**6** - 1, 2 **13** - 1, 2
Div. XII / Commission 50 – Protection of Existing and Potential Observatory Sites	**7** - 3, 4
Div. XII / Commission 55 – Communicating Astronomy with the Public	**6** - 3
IUCAF	**7** - 3

1.4.6. PROPOSALS TO CHANGE STATUTES AND BYE-LAWS

The draft revised IAU Statutes and Bye-Laws will be communicated to the National Members before 15 March 2009 and submitted to the vote of the National Member Representatives during Session 1 of the IAU XXVII GA in Rio de Janeiro, Brasil, on Tuesday, 4 August 2009. The annotated Statutes and Bye-Laws will be presented in IAU *Information Bulletin* 104.

I.5. SPECIAL EVENTS

I.5.1. YOUNG ASTRONOMERS' EVENTS

Two specific Young Astronomers' Events are being planned during the IAU XXVII GA:

- the ***Young Astronomers' Lunch*** will be held on Thursday, 6 August, 11:00 - 14:00 hr. Pre-registration for this event is required through the IAU GA Registration web page;

- the ***Young Astronomers' Consulting Service*** office will be open during the GA, where young astronomers may meet each other and/or meet senior astronomers by arranged appointments to seek advice on their investigations and careers.

Please tick the corresponding box on the GA Registration web page if you are interested in participating.

Organizing Committee:
Jean-Pierre De Greve <jpdgreve@vub.ac.be> (chair)
Adriana Valio <asilva@craam.mackenzie.br> ; <adrivalio@gmail.com> (NOC)
Michal Dovciak <dovciak@astro.cas.cz>
Oddbjorn Engvold <oddbjorn.engvold@astro.uio.no>
Julieta Fierro <fierroju@servidor.unam.mx>
Martin George <martin@qvmag.tas.gov.au>
Michele Gerbaldi <gerbaldi@iap.fr>
Edward F. Guinan <edward.guinan@villanova.edu>
Bambang Hidayat <hidayatbambang@yahoo.com>
Melanie Johnston-Hollit <Melanie.JohnstonHollitt@utas.edu.au>
Barrie W. Jones <b.w.jones@open.ac.uk>
Rajesh Kochhar <rkochhar2000@yahoo.com>
Kam-Ching Leung <kleung@unlserve.unl.edu>
Laurence A. Marschall <marschal@gettysburg.edu>
George K. Miley <miley@strw.leidenuniv.nl>
Tracey J. Moore <T.J.Moore@open.ac.uk>
Jay M. Pasachoff <Jay.M.Pasachoff@williams.edu>
John R. Percy <john.percy@utoronto.ca>
Rosa Maria Ros <ros@mat.upc.edu>; <ros@ma4.upc.edu>
Magda Stavinschi <magda@aira.astro.ro> ; <magda_stavinschi@yahoo.fr>
James C. White <jwhite@gettysburg.edu>

Contact: Jean-Pierre De Greve <jpdgreve@vub.ac.be>
URL:

I.5.2. WOMEN IN ASTRONOMY LUNCH MEETING

The IAU EC Working Group on *the Status of Women in Astronomy* is arranging a *Women in Astronomy Lunch Meeting* at the IAU XXVII GA on Monday 10 August, 11:00 - 14:00 hr, open for all GA participants. This *Lunch Meeting* will have a number of round tables with chair persons; topics will be given for discussion. The aim is to improve the status of women in astronomy and to recommend actions that will improve the environment for all astronomers.

Pre-registration is required. Please tick the corresponding box on the GA Registration web page if you are interested in participating.

Organizing Committee:
Miriani G. Pastoriza, chair <mgp@if.ufrgs.br>

Zulema Abraham <zulema@astro.iag.usp.br>
Anne Green <agreen@physics.usyd.edu.au>
Sarah T. Maddison <smaddison@swin.edu.au>

Contact: Miriani G. Pastoriza <mgp@if.ufrgs.br>
URL: <http://astronomy.swin.edu.au/wam/index-2009.html>

I.6. SCIENTIFIC PROGRAMME

The scientific programme of the IAU XXVII General Assembly was selected by the IAU Executive Committee and the IAU Division Presidents in their meeting in May 2008. The complete IAU XXVII GA programme, including the schedule for the Business Meetings, will be published on the GA web site and in the GA Program Booklet. In the present *Information Bulletin*, we provide available information on the IAU Symposia, Joint Discussions and Special Sessions during the GA. The three 2009 IAU Symposia falling outside the GA, i.e., IAU S260, IAU S261, and IAU S268, are listed in § II.4.2 of this *Bulletin*.

I.6.1. CONTACT ADDRESSES FOR SCIENTIFIC MEETINGS

Questions related to the Scientific Programme of the IAU XXVII General Assembly should be addressed either to
- the SOC chairpersons of the individual scientific meetings (contact information is listed in this chapter for each of the scientific meetings: Symposia, Joint Discussions and Special Sessions);
or to
- the IAU General Secretary, Karel A. van der Hucht
<k.a.van.der.hucht@sron.nl>, with a copy to the IAU Secretariat <iau@iap.fr>.

I.6.2. ABSTRACT SUBMISSION

The Abstract Server for papers to be submitted for presentation at the Symposia, Joint Discussions and Special Sessions of the IAU XXVII GA has been available as of 1 November 2008 at <www.astronomy2009.com.br>. The server provides instructions how to proceed. The Abstract Server accepts submissions in LaTeX format and provides a translator from RTF (Rich Text Format) files to LaTeX syntax for those who wish to submit their abstracts in Word or in plain ascii text.

The deadline for abstract submission is 1 March 2009.

Review of abstracts by the scientific meeting organizers will be completed by 15 April 2009. In order for an abstract to appear in the Programme Book and the Abstract Book, the presenter must be fully registered by 1 May 2009. If neces-

sary, accepted abstracts may be modified by the authors in the period from 15 May up to 15 June 2009.

For further details see <www.astronomy2009.com.br> .

I.6.3. SCIENTIFIC PROGRAMME OVERVIEW

Invited Discourses (18:00-19:00)

ID 1	Franco Pacini	*The Legacies of Galileo*	5 August
ID 2	James F. Bell III	*Water on Planets*	6 August
ID 3	Simon D.M. White	*Evolution of Structure in the Universe*	10 August
ID 4	Maria Teresa Ruiz	*Do Low-Luminosity Stars Matter?*	11 August

Plenary Lunch Meetings

Gruber Cosmology Prize 2009 Winner Lecture	*(12:45-13:45 hr)*	5 August
Young Astronomers Lunch	*(11:00-14:00 hr)*	6 August
Town Hall Meeting IAU Decadal Strategic Plan	*(12:45-13:45 hr)*	7 August
Women in Astronomy Lunch Meeting	*(11:00-14:00 hr)*	10 August
Town Hall Meeting New Space Observatories	*(12:45-13:45 hr)*	14 August

Plenary Symposium Reviews (09:00-10:00)

S262 *Stellar Populations – Planning for the Next Decade*
Jarle Brinchmann ***Challenges in Stellar Population Studies*** 3 August
S263 *Icy Bodies of the Solar System*
David Jewitt ***Icy Bodies in the New Solar System*** 4 August
S264 *Solar and Stellar Variability – Impact on Earth & Planets*
Thomas J. Bogdan ***Solar & Stellar Variability & Space Weather*** 5 August
S265 *Chemical Abundances in the Universe – Connecting First Stars to Planets*
Stanford E. Woosley ***Chemical Abundances in the Universe*** 10 August
S266 *Star Clusters – Basic Galactic Building Blocks throughout Time & Space*
Bruce W. Carney ***Cities of Stars: What they may reveal about their inhabitants, their societies, and their times*** 11 August
S267 *Co-evolution of Central Black Holes & Galaxies*
Timothy M. Heckman ***Co-evolution of Galaxies & Black Holes*** 12 August

Symposia

S262 *Stellar Populations – Planning for the Next Decade*
S263 *Icy Bodies of the Solar System*
S264 *Solar and Stellar Variability – Impact on Earth and Planets*

S265 *Chemical Abundances in the Universe – Connecting First Stars to Planets*
S266 *Star Clusters – Basic Galactic Building Blocks throughout Time and Space*
S267 *Co-evolution of Central Black Holes and Galaxies*

Joint Discussions

JD1 *Dark Matter in Early-type Galaxies*
JD2 *Diffuse Light in Galaxy Clusters*
JD3 *Neutron Stars – Timing in Extreme Environments*
JD4 *Progress in Understanding the Physics of Ap and Related Stars*
JD5 *Modelling the Milky Way in the Era of Gaia*
JD6 *Time and Astronomy*
JD7 *Astrophysical Outflows and Associated Accretion Phenomena*
JD8 *Hot Interstellar Matter in Elliptical Galaxies*
JD9 *Are the Fundamental Constants Varying with Time?*
JD10 *3D Views on Cool Stellar Atmospheres – Theory Meets Observation*
JD11 *New Advances in Helio- and Astero-Seismology*
JD12 *The First Galaxies – Theoretical Predictions and Observational Clues*
JD13 *Eta Carinae in the Context of the Most Massive Stars*
JD14 *FIR2009: the ISM of Galaxies in the Far-Infrared and Sub-Millimetre*
JD15 *Magnetic Fields in Diffuse Media*
JD16 *IHY Global Campaign – Whole Heliosphere Interval*

Special Sessions

SpS1 *IR and Sub-mm Spectroscopy – a New Tool for Studying Stellar Evolution*
SpS2 *The International Year of Astronomy 2009*
SpS3 *Astronomy in Antarctica*
SpS4 *Astronomy Education between Past and Future*
SpS5 *Accelerating the Rate of Astronomical Discovery*
SpS6 *Planetary Systems as Potential Sites for Life*
SpS7 *Young Stars, Brown Dwarfs, and Protoplanetary Disks*
SpS8 *The Galactic Plane – in Depth and Across the Spectrum*
SpS9 *Marking the 400th Anniversary of Kepler's "Astronomia Nova"*
SpS10 *Next Generation Large Astronomical Facilities*

I.6.4. INVITED DISCOURSES

ID 1 ***The Legacies of Galileo*** 5 August, 18:00 hr
Franco Pacini, <www.astro.unifi.it>
Dipartimento di Astronomia,
Università degli Studi di Firenze, Firenze, Italy
ID 2 ***Water on Planets*** 6 August, 18:00 hr

James F. Bell III, <www.cornell.edu>
Astronomy Department, Cornell University,
Ithaca, NY, USA

ID 3 ***Evolution of Structure in the Universe*** 10 August, 18:00 hr
Simon D.M. White, <www.mpa-garching.mpg.de>
Max-Planck-Institut für Astrophysik,
Garching-bei-München, Germany

ID 4 ***Do Low-Luminosity Stars Matter?*** 11 August, 18:00 hr
Maria Teresa Ruiz, <www.das.uchile.cl>
Departamento de Astronomía, Universidad de Chile,
Santiago de Chile, Chile

I.6.5. SYMPOSIA

(R: Review paper – I: Invited paper)

IAU S262 *Stellar Populations – Planning for the Next Decade*
3 - 7 August 2009

Coordinating Division: VIII
SOC chairs: Gustavo R. Bruzual (Venezuela) and Stephane Charlot (France).
SOC members: Nobuo Arimoto (Japan), Vladimir Avila-Reese (Mexico), Beatriz Barbuy (Brasil), Jarle Brinchmann (Netherlands), Márcio Catelán (Chile), Andrea Cimatti (Italy), Matthew Colless (Australia), Mark Dickinson (USA), Richard S. Ellis (USA/UK), Tadayuki Kodama (Japan), Dante Miniti (Chile), Joseph I. Silk (UK), Rachel S. Somerville (Germany), Patricia B. Tissera (Argentina), and Achim Weiss (Germany).
Editors: Gustavo R. Bruzual & Stephane Charlot
Contact: Gustavo R. Bruzual <bruzual@cida.ve>
URL: <www.cida.ve/~bruzual/iau262>

Principal topics

- the physics of stellar populations
- rotation and massive star evolution
- binary star evolution
- do simple stellar populations exist in nature?
- chemical enrichment
- how different chemical enhancement patterns change the solar pattern models?
- stellar populations in the Milky Way and in local resolved galaxies
- is the IMF universal?
- stellar populations in Early and Late-type galaxies
- UV to IR. Galaxies at low and high z

- what the highest-z galaxies tell us about the early universe and the galaxy formation process?
- large spectral surveys
- star formation history
- mass assembly history
- star formation quenching
- role of dark matter in galaxy evolution
- interface of AGN and galaxies
- the next decade: what should be done.

S262 Plenary Review, Monday 3 August, 09:00 – 10:00 hr
Challenges in stellar population studies *(R)* Jarle Brinchmann

Preliminary program

I.	The physics of stellar populations	tbd
II.	Spectral evolution models	tbd
III.	Stellar populations in the Milky Way	tbd
IV.	What have we learned from the interpretation of large spectral surveys	tbd
V.	Models and simulations of galaxy formation	tbd
VI.	The next decade	tbd

IAU S263 ***Icy Bodies of the Solar System***
3 - 7 August 2009

Coordinating Division: III
SOC chairs: Julio A. Fernández (Uruguay), Sylvio Ferraz-Mello (Brasil), and Rita M. Schulz (Netherlands).
SOC members: M. Antonella Barucci (France), Huberto Campins (USA), Martha P. Haynes (IAU, ex-officio), Zoran Knezevic (Serbia), Karen J. Meech (USA), Keith S. Noll (USA), Dina Prialnik-Kovetz (Israel), Hans Rickman (Sweden), Imre Toth (Hungary), Giovanni B. Valsecchi (Italy), and Jun-Ichi Watanabe (Japan).
Editors: Julio A. Fernández, Daniela Lazzaro & Dina Prialnik-Kovetz
Contact: Julio A. Fernández <julio@fisica.edu.uy>
URL: <www.astronomia.edu.uy/congresos/symp263>

S263 Plenary Review, Tuesday 4 August, 09:00 – 10:00 hr:
Icy Bodies in the New Solar System *(R)* David Jewitt

Preliminary program

Monday 3 August

11:00 – 12:30 *The icy planetesimals and the formation of the solar system*
14:00 – 15:30 *The icy planetesimals and the formation of the solar system*
Topics: Accretion of icy grains in the protoplanetary disk – The different snowlines (H_2O, CO_2, CO, CH_4, etc) – Signatures of accretion process in meteorites, comet dust, and interstellar clouds
16:00 – 17:30 *The Oort cloud: formation and evolution*

Tuesday 4 August
11:00 – 12:30 *The Oort cloud: formation and evolution*
Topics: Transfer mechanisms of bodies from their source regions to the Sun's neighborhood and the Oort cloud – How the galactic environment shaped the Oort cloud – The long-period comet flux and the Oort population?

Wednesday 5 August
11:00 – 12:30 *Sources of water and volatiles*
14:00 – 15:30 *Sources of water and volatiles*
Topics: Sources of the Earth's water – The D/H problem – Size distribution of different populations of bodies in the Solar System and their influence in the cratering impact record and source of volatiles – Icy bodies as abodes of life?
16:00 – 17:30 *Icy satellites of the outer planets*

Thursday 6 August
09:00 – 10:30 *Icy satellites of the outer planets*
Topics: Icy signatures on satellites of the outer planets – Interior of icy satellites – Ice rheology – Cryovolcanism – The possible existence of water oceans in the interiors
11:00 – 12:30 *Icy dwarf planets and TNOs*
14:00 – 15:30 *Icy dwarf planets and TNOs*
Topics: Dynamical structure and evolution of the Kuiper belt – Icy signatures on the surfaces of TNOs – Icy dwarf planets – Size and space distribution of TNOs from large surveys?
16:00 – 17:30 *Physical Processes in icy bodies*

Friday 7 August
09:00 – 10:30 *Physical Processes in icy bodies*
Topics: Comet chemistry: are there significant differences among comets? – Transition objects comets/asteroids – Activation mechanisms in comets and active asteroids – Can icy/rocky transition objects be recognized in meteor showers or fireballs?
11:00 – 12:30 *Ground-based surveys and space-based missions to icy bodies: past, present and future*
14:00 – 15:30 *Ground-based surveys and space-based missions to icy bodies: past, present and future*
Topics: Recent missions to comets – Missions to icy satellites – Space missions to

the icy and water-rich dwarf planets: Ceres and Pluto

Invited speakers
Michael F. A'Hearn (USA), Michael J.S. Belton (USA), Dominique Bockelee-Morvan (France), Michael E. Brown (USA), Angioletta Coradini (Italy), Björn J. Davidsson (Sweden), Marc Fouchard (France), Rodney D.S. Gomes (Brazil), David Jewitt (USA), Alessandro Morbidelli (France), Tobias C. Owen (USA), Morris Podolak (Israel), Frank Sohl (Germany), S. Alan Stern (USA), Gonzalo Tancredi (Uruguay)

IAU S264 *Solar and Stellar Variability – Impact on Earth and Planets*
3 - 7 August 2009

Coordinating Division: II
SOC chairs: Alexandre H. Andrei (Brasil), Alexander Kosovichev (USA), and Jean-Pierre Rozelot (France).
SOC members: Annie Baglin (France), Maria Pia Di Mauro (Italy), Julio A. Fernandez (Uruguay), Eduardo Janot Pacheco (Brasil), John D. Landstreet (Canada), Cristina H. Mandrini (Argentina), Hiroko Miyahara (Japan), Mudumba Parthasarathy (India), Ignasi Ribas (Spain), Franck Selsis (France), Jill C. Tarter (USA), Jingxiu Wang (China Nanjing), and Lev M. Zeleny (Russia).
Editors: Alexandre H. Andrei, Alexander Kosovichev & Jean-Pierre Rozelot
Contact: Alexander Kosovichev <sasha@sun.stanford.edu>
URL: <www.on.br/iau-s264/index.html>

Principal topics

The most critical aspects of the solar and stellar variability and its impact on the Earth and planets, including:

- physical mechanisms of solar and stellar variability
- solar diameter and irradiance measurements
- helio- and asteroseismic inferences
- variability of spectral irradiance and energetic particles
- solar cycles and variability on century timescale
- effects on space weather and solar system planets
- implications for Earth's climate
- stellar magnetic activity and cycles
- brightness changes in solar-type stars and stellar surface structures
- effects of magnetic activity on planet formation and evolution
- space- and ground-based observational projects

S264 Plenary Review, Wednesday 5 August, 09:00 – 10:00 hr:
Solar and Stellar Variability and Space Weather *(R)* Thomas J. Bogdan

Preliminary program

Monday 3 August
I. Observations of solar and stellar variability
11:00 Solar diameter and irradiance measurements *(I)*
11:25 Helio- and asteroseismic inferences *(I)*
11:50 Variability of spectral irradiance and energetic particles *(I)*
12:15 contributed talk
12:30 lunch
II. Solar and stellar cycles and variability on century timescale
14:30 Sunspot cycles and grand minima *(I)*
14:55 Stellar magnetic cycles *(I)*
15:20 contributed talk
15:35 coffee break
16:00 long-term stellar variability *(I)*
16:25 3 contributed talks

Tuesday 4 August

09:00 – 10:00 S263 Plenary Review

III. Magnetic activity and dynamo mechanisms
11:00 Evolution of the solar magnetic fields and polarity reversals *(I)*
11:25 Solar dynamo and cycles *(I)*
11:50 Poster presentations. 1.

Wednesday 5 August

09:00 – 10:00 S264 Plenary Review

IV. Magnetic activity and dynamo mechanisms (cont'd)
11:00 Stellar magnetic dynamo during the evolution across the main sequence *(I)*
11:25 Realistic MHD numerical simulations *(I)*
11:50 2 contributed talks
12:30 lunch

V. Physical mechanisms of solar and stellar variability
14:30 Mechanisms of the total and spectral irradiance changes *(I)*
14:55 Poster presentations. 2.
15:30 coffee break

16:00 Large-scale patterns and 'active longitudes' *(I)*
16:25 Magnetic energy release, flares and CME *(I)*
16:50 2 contributed talks

Thursday 6 August

VI. Effects on space weather and climate
09:00 Evidence and mechanisms of solar influence on Earth climate *(I)*
09:25 Thermosphere temperature and density variations *(I)*
09:50 2 contributed talks
10:30 coffee break
11:00 CME link to geomagnetic storms *(I)*
11:25 Lower and middle atmosphere and ozone layer responses to solar variation *(I)*
11:50 2 contributed talks
12:30 lunch

VII. Effects of magnetic activity on planet formation and evolution
14:30 The paleo-Sun, changes from records and inference from solar analogs of different ages *(I)*
14:55 Magnetic activity and stellar radiation emission as influences on the thermal structure, photochemistry and photoionization of planetary atmospheres *(I)*
15:20 contributed talk
15:30 coffee break
16:00 From young chromosphere active stars to cold dwarfs: regimens of magnetic activity and irradiance *(I)*
16:25 Stellar activity and magnetic shielding *(I)*
16:50 Poster presentations. II

Friday 7 August

VIII. Impact of solar and stellar variability on planetary atmospheres and climate
09:00 Sun and stars as the primary energy input in planetary atmospheres *(I)*
09:25 Formation and evolution of planetary atmospheres *(I)*
09:50 UV radiation and planetary biological evolution *(I)*
10:15 contributed talk
10:30 coffee break

IX. Current and future space missions and ground-based observing programs
11:00 Recent results from *CoRoT (I)*
11:25 Solar missions *(I)*

11:50 3 contributed talks
12:30 lunch

X. Open discussion, and closing remarks
14:00 General discussion and closing remarks
15:30 closure

IAUS 265 ***Chemical Abundances in the Universe – Connecting First Stars to Planets***
10 - 14 August 2009

Coordinating Division: IV
SOC chairs: Katia Cunha (Brazil), Monique Spite (France), and Beatriz Barbuy (Brasil).
SOC members: Martin Asplund (Germany), Timothy C. Beers (USA), Michael S. Bessell (Australia), Christina Chiappini M.L. (Switzerland), Bengt Gustafsson (Sweden), Chiaki Kobayashi (Japan), Dante Minniti (Chile), Paolo Molaro (Italy), Max Pettini (UK), Elena Terlevich (Mexico), Stanley E. Woosley (USA), and Rosemary F. Wyse (USA).
Editors: Katia Cunha, Monique Spite & Beatriz Barbuy
Contact: Katia Cunha <kcunha@noao.edu>
URL: <www.on.br/iau-s265/>

Principal topics

- primordial nucleosynthesis and the First Stars in the Universe
- abundances in the First Stars in the Galaxy
- abundances in the high-redshift Universe
- chemical abundance constraints on mass assembly and star formation in galaxies
- extra-solar planets - the chemical abundance connection
- abundance surveys and projects in the era of future large telescopes.

S265 Plenary Review, Monday 10 August, 09:00 – 10:00 hr:
Chemical Abundances in the Universe *(R)* Stanley E. Woosley

Preliminary program

Monday 10 August

9:00-10:00 Chemical Abundances in the Universe *(Plenary Review)* S.E. Woosley

I. Primordial Nucleosynthesis and the First Stars in the Universe

11:00	Primordial nucleosynthesis after WMAP *(I)*	G. Steigman
11:30	contributed talk	
11:45	The Very First Stars; formation and re-ionization of the Universe *(I)*	V. Bromm
12:15	contributed talk	
12:30	lunch	
14:00	Nucleosynthesis of the elements in super-/ hypernovae *(I)*	K. Nomoto
14:30	contributed talk	
14:45	Constraints on the nature of *s*- and *r*-process *(I)*	C. Sneden
15:15	contributed talk	
15:30	coffee break	
16:00	contributed talk	
16:15	contributed talk	

II. First Stars in the Galaxy

16:30	The first Galactic stars and chemical enrichment in the halo *(I)*	P. Bonifacio
17:00	contributed talk	
17:15	contributed talk	

Tuesday 11 August

09:00 – 10:00 Plenary review Symposium 266

11:00	Nucleosynthesis in rotating massive stars and abundances in the early Galaxy *(I)*	G. Meynet
11:30	contributed talk	
11:45	Carbon-enhanced metal poor (CEMP) stars *(I)*	W. Aoki
12:05	contributed talk	
12:20	contributed talk	
12:35	lunch	
14:00	NLTE effects and 3D effects in model atmospheres *(I)*	B. Gustafsson

III: Chemical Abundances in the High Redshift Universe

14:30	Star-forming galaxies *(I)*	tbd
15:00	contributed talk	
15:20	contributed talk	
15:30	coffee break	
16:00	Damped Ly-α systems and the host galaxies of γ-ray bursts *(I)*	J.X. Prochaska
16:30	contributed talk	
16:45	The intergalactic medium	A.S. Cowie

17:15 contributed talk

Wednesday 12 August

09:00 – 10:00 Plenary review Symposium 267

11:00 Active Galactic Nuclei *(I)* F.W. Hamann (tbc)
11:30 contributed talk

IV. Chemical Abundance Constraints on Mass Assembly and Star Formation in local Galaxies and the Milky Way
11:45 Dwarf galaxies *(I)* V.M. Hill
12:15 contributed talk
12:30 lunch
14:00 invited talk A. Koch
14:20 Chemo-dynamical substructure in the Galactic halo *(I)* tbd
14:45 contributed talk
15:00 The Milky Way Bulge and Center *(I)* M. Zoccali
15:30 coffee break
16:00 invited talk A. McWilliam
16:20 contributed talk
16:35 The Galactic thick disk *(I)* B.E. Reddy
17:05 contributed talk
17:20 contributed talk

Thursday 13 August

09:00 The Galactic thin disk *(I)* C. Allende Prieto
09:30 contributed talk
09:45 Metallicity gradients in the Milky Way *(I)* W.J. Maciel
10:15 contributed talk
10:30 coffee break
11:00 contributed talk
11:15 Chemical evolution models *(I)* tbd
11:45 contributed Talk
12:00 Chemo-dynamical simulations of galaxies *(I)* C. Kobayashi
12:20 contributed talk
12:35 lunch
14:00 *Session 2 of the IAU XXVII General Assembly*

Friday 14 August

V. Extrasolar Planets: The Chemical Abundance Connection
09:00 Metallicity and planet formation: Models *(I)* D.N.C. Lin

09:30 contributed talk
09:45 Metallicity and planet formation: Observations *(I)* J.A. Valenti
10:15 contributed talk
10:30 coffee break
11:00 contributed talk
11:15 contributed talk
11:30 contributed talk

VI. Abundance Surveys and Projects in the Era of Future Large Telescopes
11:45 Instrumentation in the era of ELTs *(I)* L. Pasquini
12:10 lunch

13:40 The Chemo-dynamical history of the Milky Way as revealed by SDSS/Segue *(I)* T.C. Beers
14:05 Galaxy assembly through chemical abundance signatures in the era of Large Surveys *(I)* R.F. Wyse
14:30 Science in the era of 30m telescopes *(I)* G.F. Gilmore
15:05 Symposium summary and concluding remarks V.V. Smith

IAU S266 ***Star Clusters – Basic Galactic Building Blocks throughout Time and Space***
10 - 14 August 2009

Coordinating Division: VII
SOC chairs: Richard de Grijs (UK) and Jacques R.D. Lépine (Brasil).
SOC members: Beatriz Barbuy (Brasil), Giovanni Carraro (Italy), Licai Deng (China Nanjing), Michael A. Dopita (Australia), Yuping Gao (China Nanjing), Douglas P. Geisler (Chile), Rosa M. Gonzalez Delgado (Spain), John Lattanzio (Australia), Stephen L.W. McMillan (USA), André Moitinho (Portugal), Anas M. Osman (Egypt), Philippe Prugniel (France), Ata Sarajedini (USA), and Alison I. Sills (Canada).
Editors: Richard de Grijs & Jacques R.D. Lépine
Contact: Richard de Grijs <R.deGrijs@sheffield.ac.uk>
URL: <www.astro.iag.usp.br/~iaus266/>

S266 Plenary Review, Tuesday 11 August, 09:00 – 10:00
Cities of Stars: What they may reveal about their inhabitants, their societies, and their times *(R)* Bruce W. Carney

Preliminary program

Monday 10 August

I. Physics and modes of star cluster formation

11:00	Statistical properties of embedded and open star clusters *(R)*	H. Zinnecker
11:40	contributed talk	
12:00	Physics and modes of star cluster formation *(I)*	M.R. Bate
12:40	lunch	
14:00	Prospects on the modes of star cluster formation in the ALMA era *(I)*	Y. Gao
14:30	2 contributed talks	

II. Massive star clusters: formation, evolution, feedback, destruction

15:10	contributed talk	
15:30	coffee break / poster viewing	
16:00	Young massive star clusters *(R)*	R. de Grijs
16:40	The nature of nuclear star clusters *(I)*	T. Böker
17:10	contributed talk	

Tuesday 11 August

09:00	Cities of Stars: What they may reveal about their inhabitants, their societies, and their times *(plenary R)*	Bruce W. Carney
10:00	coffee break / poster viewing	
11:00	Star cluster destruction *(R)*	M. Gieles
11:40	contributed talk	
12:00	Dynamical evolution of star cluster systems: the first 100 Myr *(I)*	G.A. Parmentier
12:30	lunch	

III. Star cluster systems in context

14:00	Star cluster systems *(R)*	P. Kroupa
14:40	contributed talk	
15:00	Charting the ups and downs of Galaxy evolution with star clusters: lessons from the nearby Universe *(I)*	J.S. Gallagher
15:30	coffee break / poster viewing	
16:00	Observational properties of the open cluster system of the Milky Way and what they tell us about our Galaxy *(R)*	A. Moitinho
16:35	2 contributed talks	

IV. Globular cluster chemical evolution.

17:15	contributed talk	

Wednesday 12 August

11:00	Globular cluster abundances: The imprint of first	

	generation massive stars *(R)*	C. Charbonnel
11:40	Globular cluster abundances and what they can tell us about galaxy formation *(I)*	J. Cohen
12:10	contributed talk	
12:30	lunch	
14:00	Chemical yields from asymptotic giant branch stars *(I)*	A.I. Karakas
14:30	contributed talk	

V. The multiwavelength view of star clusters

14:40	Multi-wavelength insights into star cluster formation and evolution *(I)*	R. Indebetouw
15:10	contributed talk	
15:30	coffee break / poster viewing	
16:00	X-rays from young star clusters as a complement to optical and IR views *(R)*	F. Damiani
16:40	contributed talk	
17:00	Infrared surveys of Galactic star clusters *(I)*	V. Ivanov

Thursday 13 August

09:00	contributed talk	

VI. Stellar cluster dynamics

09:30	Star cluster dynamics *(R)*	K. Bekki
10:10	contributed talk	
10:30	coffee break / poster viewing	
11:00	Stellar dynamics in the era of high-accuracy astronomy *(R)*	C.M. Boily
11:40	Formation and dynamics of star clusters *(I)*	O.Y. Gnedin
12:10	contributed talk	
12:30	lunch	

Friday 14 August

09:00	The velocity dispersion of brown dwarfs in clusters *(I)*	A.P. Whitworth
09:30	contributed talk	

VII. Star clusters as laboratories for stellar evolution

09:50	Star clusters as laboratories for stellar evolution *(R)*	M. Catelán
10:30	coffee break / poster viewing	
11:00	Star clusters and single stellar populations *(R)*	L.-C. Deng
11:30	Multiple generations of stars in star clusters: the observational evidence *(I)*	G. Piotto
12:00	Late stages of stellar evolution and cluster dynamics in globular star clusters *(I)*	H.B. Richer

12:30 lunch
14:00 3 contributed talks
15:00 Symposium summary S.S. Larsen

IAU S267 ***Co-evolution of Central Black Holes and Galaxies***
10 - 14 August 2009

Coordinating Division: VIII
SOC chair: Bradley M. Peterson (USA).
SOC members: Roberto Cid Fernandes (Brasil), Suzy Collin (France), Horacio Dottori (Brazil), Martin S. Elvis (USA), Laura Ferrarese (Canada), Timothy M. Heckman (USA), Guinevere A.M. Kauffmann (Germany), Stefanie Komossa (Germany), Paulina Lira (Chile), Alessandro Marconi (Italy), Hagai Netzer (Israel), Elaine M. Sadler (Australia), Rachel S. Somerville (USA), Thaisa Storchi-Bergmann (Brasil), Keiichi Wada (Japan), and Martin Ward (UK).
Editors: Bradley M. Peterson, Rachel S. Somerville & Thaisa Storchi-Bergmann
Contact: Bradley M. Peterson <peterson@astronomy.ohio-state.edu>
URL: <www.stsci.edu/institute/conference/iau267>

Principal topics

- the cosmological framework: the first galaxies and black holes (observations and theory)
- multi-wavelength properties of AGN and their hosts
- quasar & supermassive black hole demographics
- black hole masses, scaling relationships with host galaxies and their evolution
- relationships between AGNs, starburst regions, and stellar populations
- accretion and outflows
- physics of accretion and outflows: theory
- the interplay between radio jets and the ICM/IGM: observations and simulations
- modes of AGN feedback to galaxy evolution: observations and theory.

Plenary Review, Wednesday 12 August, 09:00-10:00 hr:
Co-evolution of Galaxies and Blackholes *(R)* Timothy M. Heckman

Preliminary program

Monday 10 August

I. The first galaxies and black holes

11:00	*(R, tbd)*	P. Madau
11:40	*(I, tbd)*	D. Elbaz
12:10	(*I, tbd)*	X. Fan
12:40	lunch / poster viewing	
14:00	(*I, tbd)*	M. Volonteri
14:30	3 contributed talks	
15:30	coffee break / poster viewing	

II. Quasar and supermassive black hole demographics

16:00	*(R, tbd)*	H. Netzer
16:40	*(I, tbd)*	S. M. Croom
17:10	*(I, tbd)*	A. Marconi

Tuesday 11 August

11:00	*(I, tbd)*	M. Vestergaard
11:30	3 contributed talks	
12:30	lunch / poster viewing	

III. Multiwavelength properties of AGNs and their hosts

14:00	*(R, tbd)*	R. Cid Fernandes
15:10	contributed talk	
15:30	coffee break / poster viewing	
16:00	*(I, tbd)*	T. Nagao
16:30	3 contributed talks	

Wednesday 12 August

9:00	Co-evolution of galaxies and black holes *(R)*	T.M. Heckman
10:00	coffee / poster viewing	

IV. Black hole masses, scaling relationships and their evolution

11:00	*(R, tbd)*	B.M. Peterson
11:40	*(I, tbd)* L. Ferrarese	
12:10	contributed talk	
12:30	lunch / poster viewing	
14:00	*(I, tbd)* C. Peng	
14:30	3 contributed talks	
15:30	coffee break / poster viewing	

V. Accretion and feeding

16:00	*(R, tbd)*	A.R. King
16:40	*(I, tbd)*	R. Davies

17:10 *(I, tbd)* G. Risaliti

Thursday 13 August

9:00 *(I, tbd)* T. Storchi-Bergmann
9:30 3 contributed talks
10:30 coffee break / poster viewing

VI. Outflows and feedback

11:00 *(R, tbd)* A.C. Fabian
11:40 *(I, tbd)* N. Arav
12:10 *(I, tbd)* D. Proga

Friday 14 August

9:00 *(I, tbd)* K. Wada
9:30 3 contributed talks
10:30 coffee break / poster viewing

VII. The Big Picture: large-scale effects of feedback on galaxies and their environment

11:00 *(R, tbd)* R.S. Somerville
11:40 *(I, tbd)* T. Di Matteo
12:10 contributed talk
12:30 lunch / poster viewing
14:00 *(I, tbd)* P.F. Hopkins
14:30 3 contributed talks
15:30 coffee break / poster viewing
16:00 *(I, tbd)* G.A.M. Kauffmann
16:30 *(I, tbd)* R. Morganti
17:00 Closing remarks R.D. Blandford

I.6.7. JOINT DISCUSSIONS

JD1 *Dark Matter in Early-type Galaxies*
3 - 5 August 2009

Coordinating Division: VIII
SOC chairs: Leon V.E. Koopmans (Netherlands) and Tommaso Treu (USA).
SOC members: Luca Ciotti (Italy), Wyn Evans (UK), Ortwin Gerhard (Germany), Dan Maoz (Israel), Priyamvada Natarajan (USA), Takaya Ohashi (Japan), and Silvia Pellegrini (Italy).
Editors: Leon V.E. Koopmans & Tommaso Treu
Contact: Leon V.E. Koopmans <koopmans@astro.rug.nl>
URL: <www.astro.rug.nl/~koopmans/IAU_JD/Main_Page.html>

Principal topics

Breakthroughs in observational and modelling techniques (lensing, dynamics and X-rays) as well as in theoretical studies, and large observational surveys:

- are the observational results presenting a self-consistent picture?
- are there major problems with the standard cold matter scenario?
- are there any viable alternatives to dark matter?

Assess the current status of the field and discuss future scientific goals:

- stellar and dark-matter density profiles
- CDM and stellar substructure
- scaling relations
- formation mechanisms
- cosmic evolution
- observational/modelling techniques
- ongoing / new surveys

Preliminary program

Monday 3 August

11:00 - 11:05	Opening	L.V.E. Koopmans

I. Dark matter from galaxy dynamics or X-ray observations

11:05 - 11:30	Dark matter and galaxy dynamics *(I)*	O. Gerhard
11:30 - 11:55	Dark matter and X-ray haloes *(I)*	T. Ohashi
11:55 - 12:35	3-4 contributed talks	
12:35 - 14:00	lunch	

II. Joint techniques: combining lensing, dynamics, X-ray observations

14:00 - 14:25 X-rays and dynamics *(I)* S. Pellegrini
14:25 - 14:50 Lensing and dynamics *(I)* L.V.E. Koopmans
14:50 - 15:30 3-4 contributed talks
15:30 - 16:00 coffee break

III. Scaling relations and dark matter connection
16:00 - 16:25 ETGs Scaling Relations *(I)* T. Treu
16:25 - 16:50 tbd *(I)*
16:50 - 17:30 3-4 contributed talks

Tuesday 4 August

IV. Dark-matter density profiles from weak lensing
11:00 - 11:25 Extended dark-matter haloes from weak lensing *(I)* P. Natarajan
11:25 - 11:45 1-2 contributed talks

V. Dark matter substructure
11:45 - 12:10 CDM substructure - simulations vs. observations *(I)* W. Evans
12:10 - 12:30 1-2 contributed talk

Wednesday 5 August

11:00 - 11:20 1-2 contributed talks

VI. The role of dark matter in formation, evolution and feedback
11:20 - 11:45 Galaxy formation from dry & hydro simulations *(I)* L. Ciotti
11:45 - 12:10 Semi-analytic Galaxy Formation Models *(I)* tbd
12:10 - 12:30 1-2 contributed talks
12:30 - 14:00 lunch
14:00 - 14:20 1-2 contributed talks

VII. Ongoing surveys and future outlook
14:20 - 14:45 ETG surveys - past, present, and future *(I)* Dan Maoz (tbc)
14:45 - 15:25 3-4 contributed talks
15:30 - 16:00 Coffee break

VII. General & Panel Discussion
16:00 - 17:30 General Discussion (Lead by SOC Panel + Selected Speakers)
Discussion on major open questions about the presence and role of dark-matter in ETGs, its influence on galaxy structure, formation, evolution and feedback. The role and presence of CDM substructure. What are the steps forward in this field, where should future research focus on, etc.

JD2 *Diffuse Light in Galaxy Clusters*
6 - 7 August 2009

Coordinating Division: VIII
SOC chairs: Magda Arnaboldi (Italy) and Ortwin Gerhard (Germany).
SOC members: Christophe Adami (France), Robin Ciardullo (USA), Kenneth C. Freeman (Australia), Lucio Mayer (Switzerland), Cláudia L. Mendes de Oliveira (Brasil), Sadanori Okamura (Japan), Simon D.M. White (Germany), and Ann I. Zabludoff (USA).
Editors: Magda Arnaboldi & Ortwin Gerhard
Contact: Magda Arnaboldi <marnabol@eso.org>
URL: <www.eso.org/~marnabol/JD_index.html>

Principal topics

Diffuse intracluster light (ICL) has now been observed in nearby and in intermediate redshift clusters. Individual intracluster stars have been detected in the Virgo and Coma clusters and the first colour-magnitude diagram and velocity measurements have been obtained. Recent studies show that the intracluster light contains of the order of 10% and up to 30% of the mass in stars overall, but in cores of dense and rich clusters like Coma, the local ICL fraction can be as high as 40-50%. Topics are:

- what can we learn from the ICL about the formation of galaxy clusters and the evolution of cluster galaxies?
- how and when did the ICL form?
- what is the connection to the central brightest cluster galaxy?
- cosmological N-body and hydrodynamical simulations are beginning to make predictions for the kinematics and origin of the ICL
- need to confront observational evidence and theoretical predictions
- identify future directions for understanding the origin and implications of this new component of galaxy clusters.

Preliminary program

I. Distribution of diffuse light in clusters and groups – photometry

Clusters z=0	
Individual: Virgo cluster *(I)*	J. C. Mihos
Individual: Coma cluster *(I)*	C. Adami
Clusters z=0.3	
Individual: *(I)*	J.J. Feldmeier
Statistical: *(I)*	S. Zibetti
Groups – compact and fossil groups *(I)*	C.L. Mendes de Oliveira

II. Kinematics of intra-cluster stars – Individual stars and absorption line spectroscopy
Intracluster Planetary Nebulae
Kinematics of diffuse light in Virgo from planetary nebulae *(I)* M. Arnaboldi
Dynamics of cluster cores from planetary nebulae velocities *(I)* O. Gerhard
Absorption line spectroscopy of diffuse light *(I)* A.I. Zabludoff

III. Intracluster stellar populations – [Fe/H] and age distribution
Planetary Nebulae as tracers of stellar populations *(I)* R. Ciardullo
The intracluster red giant star population in the Virgo cluster *(I)* P.R. Durrell
Intracluster globular clusters and ultra-compact dwarfs *(I)* M. Hilker
Metallicity of the ICL *(I)* tbd

IV. Cosmological simulations of cluster and group formation / origin of diffuse light
Cluster and group formation in ΛCDM *(I)* S.D.M. White
Galaxy evolution in clusters *(I)* L. Mayer
Observations of galaxy formation and mergers in clusters *(I)* tbd
Building up of cDs and diffuse light
Simulation of diffuse light in clusters *(I)* tbd
Formation of cDs *(I)* G. De Lucia

JD3 *Neutron Stars – Timing in Extreme Environments*
3 - 5 August 2009

Coordinating Division: XI
SOC chairs: Tomaso Belloni (Italy), Mariano Méndez (Netherlands), and Chengmin Zhang (China Nanjing).
SOC members: M. Ali Alpar (Turkey), Didier Barret (France), Dipankar Bhattacharya (India), Deepto Chakrabarty (USA), Marat R. Gilfanov (Germany/Russia), Jorge Horvath (Brasil), Victoria M. Kaspi (Canada), Michiel van der Klis (Netherlands), Duncan R. Lorimer (USA), Donald B. Melrose (Australia), Dany P. Page (Mexico), Andreas Reisenegger (Chile), and Gustavo E. Romero (Argentina).
Editors: Tomaso Belloni, Mariano Méndez & Chengmin Zhang
Contact: Tomaso Belloni <tomaso.belloni@brera.inaf.it>
URL: <www.brera.inaf.it/IAU2009extreme/index.html>

Principal topics
- quasi-periodic oscillations from mHz to kHz
- X-ray bursts and superbursts
- millisecond X-ray pulsars
- AXP/SGR and magnetars
- isolated neutron stars

- very-high energy emission from neutron stars
- gravitational waves from neutron stars
- neutron-star equation of state and strong gravity
- future instrumentation for timing.

Preliminary program

Monday, 3 August
11:00 Opening.

11:00 - 12:30 *Quasi-periodic oscillations from mHz to kHz. X-ray bursts and superbursts*
X-ray bursts and superbursts *(I)* A. Heger (tbc)
Quasi-periodic oscillations *(I)* M. Méndez
Energy spectra of LMXB *(I)* D. Psaltis (tbc)

14:00 - 15:30 *X-ray bursts and superbursts. Millisecond X-ray pulsars*
Millisecond X-ray pulsars *(I)* R. Wijnands
X-ray burst ignition and profiles *(I)* R.L. Cooper

16:00 - 17:30 *AXP/SGR and magnetars, very-high energy emission*
Discussion and poster summary (30 min)
Magnetars *(I)* C. Kouveliotou
VHE from neutron stars and their environment *(I)* F.A. Aharonian
Fast oscillations in SGRs *(I)* G. Israel (tbc)

Tuesday 4 August

11:00 - 12:30 *AXP/SGR and magnetars, isolated neutron stars*
Radio pulsars *(I)* M. McLaughlin
The binary pulsar *(I)* M. Burgay
Pulsar results from Fermi/GLAST *(I)* P.S. Ray (tbc)

Wednesday 5 August

11:00 - 12:30 *Gravitational waves. Neutron-star equation of state and strong gravity*
Equation of state of neutron stars *(I)* J.M. Lattimer

14:00 - 15:30 *Gravitational waves. Neutron-star equation of state and strong gravity*
Gravitational waves *(I)* N. Andersson

16:00 -17:30 *Future instrumentation for timing. Historical perspective and future expectations*
Free discussion (20 min)
Discussion and poster summary (30 min)
AXTAR mission *(I)* P.S. Ray (tbc)
ASTROSAT mission *(I)* D. Bhattacharya (tbc)
HTRS instrument for IXO *(I)* D. Barret

JD4 *Progress in Understanding the Physics of Ap and Related Stars*
3 - 5 August 2009

Coordinating Division: IV
SOC chair: Margarida S. Cunha (Portugal).
SOC members: Natalia Drake (Russia), Michael M. Dworetsky (UK), Oleg Kochukhov (Sweden), Friedrich Kupka (Germany), Francis Leblanc (Canada), Lyudmila I. Mashonkina (Russia), Richard Monier (France), Ernst Paunzen (Austria), Nikolai E. Piskunov (Sweden), Hiromoto Shibahashi (Japan), Barry Smalley (UK), Werner W. Weiss (Austria), and Jozef Ziznovsky (Slovakia).
Editors: Margarida S. Cunha, Michael M. Dworetsky & Barry Smalley
Contact: Margarida S. Cunha <mcunha@astro.up.pt>
URL: <www.astro.up.pt/investigacao/conferencias/iau2009-ApStars/>

Principal topics

Stellar magnetic fields, atomic diffusion, convection, rotation and pulsations are keys to the general understanding of stars and their evolution. The chemically peculiar (CP) stars provide unique environments in which these physical phenomena interact, both internally and in the atmospheric layers, leaving a multitude of signatures that can be studied using different kinds of observations and techniques. Topics:

- recent observations and modeling of CP stars as the starting point for a multi-disciplinary exchange of ideas focused on the interpretation of the convolved effects of magnetism, pulsations, convection, rotation, and diffusion, in an evolutionary context
- current and future ground and space-based observations of CP stars
- atmospheric modelling and atmospheric mapping in the context of CP stars
- understanding the CP and related phenomena in the context of stellar evolution.

Preliminary program

I. Pushing the limit of instrument capabilities
Overview on CP stars *(I)* — W.W. Weiss
Current ground-based observations of CP stars *(I)* — S.J. Adelman
Current space-based observations of CP stars *(I)* — J. Matthews
GAIA impact on CP star research *(I)* — D. Shulyak
Discussion – To what degree may complementary techniques contribute to the understanding of the CP phenomenon?
II. A 3-D look into the atmosphere?
Magnetic fields and chemical inhomogeneities in the upper layers of hot stars *(I)* — G.A. Wade
Spectral synthesis / atmospheric models *(I)* — L.I. Mashonkina
Pulsations in the atmosphere / inversions *(I)* — T.A. Ryabchikova
Discussion - Atomic data: What do we need as input? How confidently can we derive Global parameters of CP stars?

III. CP and related phenomena in the context of stellar evolution
From F- to O-type stars / from pre-main sequence to WDs: similarities and differences *(I)* — J.D. Landstreet
The origin and evolution of the magnetic field *(I)* — D.L. Moss (tbc)
Stellar evolutionary models: effects of diffusion: recent work, future plans *(I)* — G.J. Michaud
Stellar evolutionary models: effects of rotation: recent work, future plans *(I)* — J.-P. Zahn

Discussion - What is the key to the diversity of CP phenomena? The roles of magnetic fields, rotation, diffusion, birth environment, and binarity.

IV. *Final Discussion - The upcoming challenges of CP star research*

JD5 *Modelling the Milky Way in the Era of Gaia*
6 - 7 August 2009

Coordinating Division: VII
SOC chair: James J. Binney (UK).
SOC members: Luis A.C. Aguilar (Mexico), Herwig B. Dejonghe (Belgium), Kenneth C. Freeman (Australia), Ortwin Gerhard (Germany), Naoteru Gouda (Japan), Amina Helmi (Netherlands), Jacques R.D. Lépine (Brasil), Alice C. Quillen (USA), Annie C.R. Robin (France), and Natalia Y. Sotnikova (Russia).
Editor: James J. Binney
Contact: James J. Binney <binney@thphys.ox.ac.uk>
URL: < www-thphys.physics.ox.ac.uk/people/JamesBinney/jd5_home.html>

Principal topics

Sophisticated dynamical models will be required to extract science from the large surveys of the Milky Way that will culminate in the *Gaia* survey (2012-2017). JD5 will review:

- the kinds of data that are available to constrain such models
- the various types of dynamical model that could be constructed
- strategies for fitting models to the data, and
- the nature of the computational challenge that these processes will entail.

The aims of JD5 are to clarify the work that must be accomplished, and to get the community working collaboratively towards the overall long-term goal.

Preliminary program

Thursday 6 August

I. The challenge

09:00	Star counts, radial velocities, proper motions, metallicities and ages *(I)*	A.C.R. Robin
09:30	Large-scale non-equilibrium structures *(I)*	V. Belokurov
10:00	Non-equilibrium dynamics and radial migration in the disc *(I)*	A.C. Quillen
10:30	coffee	
11:00	Star-formation histories, metallicity distributions and luminosity functions of disk, bulge & halo *(I)*	R.F. Wyse
11:30	Measures of ISM density, absorption, emission at various frequencies, polarization, Faraday rotation, dust to gas ratio *(I)*	
12:00	contributed talk	
12:15	contributed talk	
12:30	lunch	
14:00	Gas dynamics: motions driven by bar and spiral structure *(I)*	F. Combes
14:30	Exploiting horizontal and vertical dynamics of disc, dynamics of halo structures and satellites *(I)*	A. Helmi

II. Methods

15:00	Introduction to orbit-superposition models. How do we fit such a model to a catalogue? *(I)*	R.P. van der Marel
15:30	coffee	

16:00	contributed talk	
16:15	contributed talk	
16:30	Torus modelling as an extension of Schwarzschild *(I)*	J.J. Binney
17:00	In what detail can we represent the MW in a conventional N-body model? *(I)*	V.P. Debattista

Friday 7 August

09:00	To what extent does M2M overcome limitations of conventional N-body? *(I)*	O. Gerhard
09:30	Projecting models into the observational domain *(I)*	H.B. Dejonghe
10:00	Given the *Gaia* catalogue, an NIR catalogue (VHS?) and a dynamical model, how to build a dust model? *(I)*	J.R.D. Lépine
10:30	coffee	
11:00	contributed talk	
11:15	contributed talk	
11:30	How to optimise complex models? Will the computational scale be worryingly large? *(I)*	P. Saha
12:00 - 12:30	Summary *(I)*	K.C. Freeman

JD6 *Time and Astronomy*
6 - 7 August 2009

Coordinating Division: I
SOC chairs: Pascale Defraigne (Belgium) and Aleksander Brzezinski (Poland).
SOC members: Daniel Gambis (France), Yury P. Ilyasov (Russia), Sergei A. Klioner (Germany), Michael Kramer (UK), Richard N. Manchester (Australia), Demetrios N. Matsakis (USA), Rendong Nan (China Nanjing), and Gérard Petit (France).
Editors: Pascale Defraigne & Aleksander Brzezinski
Contact: Pascale Defraigne <p.defraigne@oma.be>
URL: <www.astro.oma.be/IAU/COM31/jd6.php>

Principal topics

- aspects of time, its use for astronomy, and the contributions from astronomy
- Earth rotation and time: an overview of UT1 determination as well as UT1 modeling and prediction
- atomic time scales: the present realizations and performance of atomic time scales and time transfer techniques.
- pulsar timing and its applications: recent developments in precision

- pulsar timing and its application to time scales, planetary ephemerides, detection of gravitational waves and tests of gravitational theories.

Preliminary program

I. Earth rotation and time
UT1/LOD realization and accuracy
Geophysical impact on UT1
Short- and long-term variations of UT1
Use of UT1 for astro-geodetic studies
UT1 prediction

II. Atomic time scales
Stability of TAI, TT(BIPM)
Impact of new frequency standards on SI time scales
GNSS time scales
Time transfer
Recent developments with leap seconds

III. Pulsar timing and its applications
Techniques of precision pulsar timing
Pulsar time scales
Pulsar tests of gravitational theories
Pulsar timing arrays and detection of gravitational waves
Improving solar-system ephemeredes
Pulsar timing noise

JD7 *Astrophysical Outflows and Associated Accretion Phenomena*
6 - 7 August 2009

Coordinating Division: VI
SOC chairs: Elisabete M. de Gouveia Dal Pino (Brasil) and Alejandro C. Raga (Mexico).
SOC members: Mark Birkinshaw (UK), Sylvie Cabrit (France), Max Camenzind (Germany), Adriano H. Cerqueira (Brasil), Atillio Ferrari (Italy), I. Felix Mirabel (Chile), R. Naryan (USA), Thomas P. Ray (Ireland), F. Felipe Rodriguez (Mexico), K. Shibata (Japan), James M. Stone (USA), and Thaisa Storchi-Bergmann (Brasil).
Editors: Elisabete M. de Gouveia Dal Pino & Alejandro Raga
Contact: Elisabete M. de Gouveia Dal Pino <dalpino@astro.iag.usp.br>
URL: <iaujd-outflows.blogspot.com/>

Principal topics

Highly collimated supersonic jets and outflows are very frequent in several astrophysical environments. Despite their different physical scales, all these outflow classes have strong morphological similarities.

- what physics do they share?
- can we find a universal mechanism of acceleration and collimation that operates in all classes?
- the origin of the astrophysical jets and their effects on the astrophysical environments
- understanding the driving mechanisms of jets from proto-stars (including their possible crucial link with star and planet formation) to microquasars and AGNs
- the basic physics of the accretion-jet process in magnetized disks, including the transport of angular momentum and the development of reconnection and turbulent dynamo
- cooling/heating processes, instabilities, shock structures and particle acceleration mechanisms in the jets
- the impact of the jets on energy balance and turbulence feeding in the astrophysical environments
- the potential association of jet-accretion phenomena with GRBs and UHECRs.

Preliminary program

Thursday 6 August

09:00	Welcoming address	E.M. de Gouveia Dal Pino & A.C. Raga

I. Jet/Accretion Disk systems: basic physics

09:05	Numerical simulations of MHD accretion disks *(I)*	J.F. Hawley
	Jet-accretion disk physics: from transport to dynamo processes *(I)*	A.R. King
	Accretion disks theory *(I)*	R. Narayan
	panel / poster discussion	
10:30	coffee break /poster viewing	

II. Jet observations in all scales

11:00	YSO jets optical observations *(I)*	B. Reipurth
	YSO jets rotation and magnetic field observations *(I)*	T.P. Ray
	QPO-Jet relation in X-ray binaries and AGNs *(I)*	T. Belloni
	Extragalactic jet observations from radio to X-ray / acceleration *(I)*	M. Birkinshaw
	panel / poster discussion	

12:30 lunch

III. Jet launching

14:00	Numerical MHD simulations of astrophysical jets *(I)*	K. Shibata
	Magnetic Reconnection in accretion disk/corona and jet launching *(I)*	E.M. de Gouveia Dal Pino
	AGN accretion disk observations *(I)*	T. Storchi-Bergmann
	Are jets rotating at the launching? *(I)*	N. Soker
	panel / poster discussion	

15:30 coffee break / poster viewing

IV. Jet propagation and interaction with environment in all scales

16:00	Is there an UHECRs-AGN connection? *(I)*	P.L. Biermann (tbc)
	Extragalactic jets simulations *(I)*	A. Ferrari
	YSO jet simulations *(I)*	A.C. Raga
	panel /poster discussion	

Friday 7 August

V. Jets from YSOs

09:00	YSO radio and milimmetric observations *(I)*	L.F. Rodriguez
	Star formation-jet connection *(I)*	F.H. Shu
	Jet-accretion connection in YSOs *(I)*	S. Cabrit
	panel / poster discussion	

10:30 coffee break / poster viewing

VI. Relativistic Jets: GRBs, BHs, new generation instruments

11:00	Jets in GRBs *(I)*	P. Meszaros
	Theory of relativistic jets *(I)*	M. Camenzind
	Accretion/jet connection in black holes – observations *(I)*	I.F. Mirabel
	ALMA and LOFAR in the context of accretion disks *(I)*	A. Dutrey

Summary and concluding remarks A.C. Raga & E.M. de Gouveia Dal Pino

JD8 *Hot Interstellar Matter in Elliptical Galaxies*
6 - 7 August 2009

Coordinating Division: VIII
SOC chairs: Dong-Woo Kim (USA) and Silvia Pellegrini (Italy).
SOC members: Françoise Combes (France), Sofia A. Cora (Argentina), Giuseppina Fabbiano (USA), Alexis Finoguenov (Germany), Brad K. Gibson (UK), Nimisha G. Kantharia (India), Chiaki Kobayashi (Japan), Cláudia L. Mendes de Oliveira (Brasil), Elaine M. Sadler (Australia), Craig L. Sarazin (USA), Thomas S. Statler (USA), and Ginevra Trinchieri (Italy).
Editors: Dong-Woo Kim & Silvia Pellegrini
Contact: Dong-Woo Kim <kim@cfa.harvard.edu>
URL: <hea-www.cfa.harvard.edu/IAU/>

Principal topics

Physical properties of the hot interstellar matter in elliptical galaxies are related with the formation and evolution of elliptical galaxies via star formation episodes and environmental effects such as stripping, infall, and mergers, and growth of super-massive black holes. The *Chandra* and *XMM-Newton* X-ray space missions have provided a large amount of high spatial/spectral resolution observational data on the hot ISM in elliptical galaxies. The JD will review the observational constraints available on the physical properties of the hot ISM, confront the predictions of the state-of-art numerical simulations and analytical models of the dynamical/chemical evolution with observations, and explore:

- the evolution of the ISM and the elliptical galaxy
- metal abundances and chemical evolution in the hot ISM
- high resolution 2D distributions and fine structures of the diffuse hot ISM
- interplay between hot ISM, ICM, AGN and their connection to stellar formation and evolution
- dynamical and chemical evolution of the hot ISM via mergers, winds and SN/AGN feedback
- X-ray fundamental plane
- X-ray emission from distant elliptical galaxies and future missions.

Preliminary program

Thursday 6 August

I. Hot gas structure/evolution (09:00 - 12:30)

X-ray observations of the hot ISM in elliptical galaxies *(R)*	G. Fabbiano
Gas structure with *Chandra* archival data *(R)*	T.S. Statler

Hot ISM in elliptical galaxies using multiple instruments *(I)*	J.D. Bregman
XMM-Newton observations of elliptical galaxies *(I)*	G. Trinchieri
Suzaku observations of elliptical galaxies *(I)*	K. Matsushita

II. Metal abundances and chemical evolution (14:00 - 17:30)

Chemical evolution *(R)*	A. Renzini
Chemo-dynamical evolution of elliptical galaxies *(R)*	B.K. Gibson
Numerical simulation of elliptical galaxies *(I)*	C. Kobayashi
Metal abundances in the hot ISM of elliptical galaxies *(I)*	P.J. Humphrey

Friday 7 August

III. Feedback and environment (09:00 - 11:30)

Environment and feedback *(R)*	C.L. Sarazin
Scaling properties *(R)*	T. Ponman
AGN feedback in numerical simulations *(I)*	L. Ciotti
AGN feedback in details and in surveys *(I)*	A. Finoguenov
2-3 contributed talks	

IV. Panel discussion (11:30 - 12:30)

JD9 *Are the Fundamental Constants Varying with Time?*
10 - 11 August 2009

Coordinating Division: VIII
SOC chairs: Paolo Molaro (Italy) and Elisabeth Vangioni-Flam (France).
SOC members: John D. Barrow (UK), Françoise Combes (France), Thomas Dent (Germany), Sandro D'Odorico (Germany), Victor V. Flambaum (Australia), Sergei A. Levshakov (Russia), Carlos J.A.P. Martins (Portugal), Michael T. Murphy (Australia), Cédric Ledoux (Chile), Keith A. Olive (USA), Patrick Petitjean (France), Dieter Reimers (Germany), Roghunathan Srianand (India), Jean-Philippe Uzan (France), and John Webb (Australia).
Editors: Paolo Molaro & Elisabeth Vangioni-Flam
Contact: Paolo Molaro <molaro@ts.inaf.it>
URL: <www.ts.astro.it/topics/jd9/jd9.html>

Principal topics

- theoretical expectations for variable constants: from strings to scalar fields

- cosmology with varying constants: dynamical dark energy
- tests of fundamental principles of GR: equivalence principle, space missions *Microscope* and *Aces*
- laboratory and geological bounds: atomic clocks, Oklo
- astronomical bounds: BBN, CMB, meteorites
- fine structure constant: AD method, MM method
- electron-to-proton mass ratio from molecular hydrogen and ammonia
- radio observations: bounds on combined constants
- future instrumentation: ALMA, SKA, ELT.

Preliminary program

Monday 10 August
11:00 - 17:30

I. Theoretical aspects
Varying constants and cosmology *(I)* J.D. Barrow (tbc)
tbd *(I)* J.-P. Uzan
Constants and the dark side of gravity *(I)* C.J.A.P. Martins
Comparing bounds on recent and local coupling variations *(I)* T. Dent
Constraints on unifying models for time-varying dark matter and dark energy *(I)* G.J. Mathews, [K. Ichiki, T. Kajino, N.Q. Lan, X. Zhao
Varying constants: constraints from seasonal variations *(I)* D.J. Shaw

II. Laboratory & astronomical bounds
Laboratory searches for variation of fundamental constants *(I)* S.G. Karshenboim
Variation of fundamental constants from Big Bang to atomic clocks: theory and observations *(I)* V.V. Flambaum, J.C. Berengut
The effects of coupling variations on BBN *(I)* K.A. Olive
Some nuclear aspects of the variation of fundamental constants related to BBN and stellar evolution *(I)* A. Coc
21 cm radiation: a new probe of fundamental physics *(I)* R. Khatri, B.D. Wandelt
WMAP 5-year constraints on time variation of the fine structure constant and electron mass in a detailed recombination scenario *(I)* S.J. Landau

Tuesday 11 August
11:00 - 17:30

III. Observations

The survey on varying alpha *(I)*	J.K. Webb
Probing the variation of fundamental constants using QSO absorption lines *(I)*	R. Srianand
Constraints on varying fundamental constants with radio and optical quasar spectra *(I)*	M.T. Murphy
Spatial and temporal variations of fundamental constants *(I)*	S.A. Levshakov, [I.I. Agafonova, P. Molaro, D. Reimers
Markov Chain Monte Carlo methods applied to varying constants *(I)*	J.A. King
Genetic algorithms applied to profile fitting of high resolution quasar spectra *(I)*	M. Bainbridge
Discussion and reporting on new measurements of m(*e*)/m(*p*) *(I)*	R.I. Thompson
The proton-to-electron mass ratio in different cosmological ages *(I)*	A.V. Ivanchik, [D.A. Varshalovich, P. Petitjean
tbd *(I)*	M. Wendt, D. Reimers
Calibration issues in the fine structure variability determination (PC) *(I)*	M. Centurión M.
Detections of H2 and HD: overview and prospective	P. Noterdaeme
Limits on variations in the proton- to-electron mass ratio from high resolution optical quasar spectra *(I)*	A.L. Malec
Radio measurements of constant variation and perspectives with ALMA *(I)*	F. Combes
ELT instruments suited to the measurement of fundamental constants *(I)*	P. Molaro

JD10 *3D Views on Cool Stellar Atmospheres – Theory Meets Observation*
10 - 11 August 2009

Coordinating Division: IV
SOC chair: Hans-G. Ludwig (France).
SOC members: Carlos Allende Prieto (USA), Martin Asplund (Germany), Mats Carlsson Norway), Márcio Cátelan (Chile), Kwing Lam Chan (China Nanjing), Dainis Dravins (Sweden), K.N. Nagendra (India), Åke Nordlund (Denmark), Nataliya Shchukina (Ukraine), Thirupathi Sivarani (USA), and Matthias Steffen (Germany).
Editors: Hans-G. Ludwig, Piercarlo Bonifacio & K N. Nagendra
Contact: Hans-G. Ludwig <Hans.Ludwig@obspm.fr>
URL: <http://www.galax.obspm.fr/JD10/3Dviews.html>

Principal topics

- hydrodynamics and radiative transfer of 3D model atmospheres: current status, limitations, and how to make headway?
- 3D views of the solar atmosphere with HINODE: what did we learn about solar surface structures, chromospheric and coronal heating?
- spectral line formation: the impact of 3D model atmospheres on stellar and solar abundance analysis
- NLTE and 3D atmospheres: computational bottle-necks and empirical constraints
- understanding of surface convection: atmospheres as outer boundaries of global stellar structure models
- astro-/helio-seismology and 3D model atmospheres.

Preliminary program

Monday 10 August

11:00	Welcome and introduction	H.-G. Ludwig
11:15	Hydrodynamics and radiative transfer of 3D model atmospheres: current status, limitations, and how to make headway? *(R)*	M. Carlsson
11:45	2 contributed talks	
12:15	discussion	
12:30	lunch	
14:00	3D views of the solar atmosphere with *HINODE (R)*	S. Tsuneta
14:30	3 contributed talks	
15:15	discussion	
15:30	coffee break	
16:00	Polarization: the proving ground for methods in radiative transfer *(R)*	K.N. Nagendra
16:30	3 contributed talks	
17:15	discussion	

Tuesday 11 August 11

11:00	Dynamics and dust formation in cool stellar and planetary atmospheres *(R)*	A.J. Burgasser
11:30	3 contributed talks	
12:15	discussion	
12:30	lunch	
14:00	3D stellar atmospheres for stellar structure models and asteroseismology *(R)*	F. Kupka
14:30	3 contributed talks	

15:15 discussion
15:30 coffee break
16:00 5 contributed talks
17:15 discussion

JD11 *New Advances in Helio- and Astero-Seismology*
10 - 11 August 2009

Coordinating Division: II
SOC chairs: Junwei Zhao (USA), Hiromoto Shibahashi (Japan), and Guenter Houdek (UK).
SOC members: Thierry Appourchaux (France), Vladimir A. Baturin (Russia), Timothy R. Bedding (Australia), William J. Chaplin (UK), Dean-Yi Chou (China Taiwan), Jadwiga Daszyn'ska-Daszkiewicz (Poland), Maria Pia Di Mauro (Italy), Marcelo Emilio (Brasil), Hans Kjeldsen (Denmark), Yan Li (China Nanjing), Jaymie Matthews (Canada), Arlette Noels (Belgium), and Markus Roth (Germany).
Editors: Junwei Zhao, Hiromoto Shibahashi & Guenter Houdek
Contact: Junwei Zhao <junwei@sun.stanford.edu>
URL: <http://sun.stanford.edu/IAU_JD/>

Principal topics

- new results from global helioseismology: solar cycle variations, internal rotation, composition, search for g-modes, implications for dynamo models
- advances in local helioseismology: local and large-scale flows
- meridional circulation, imaging of the deep interior and the far side of the Sun
- magnetoseismology
- numerical simulations of solar and stellar convection and oscillations, validation of helio- and asteroseismic techniques
- physics of solar and stellar oscillations
- asteroseismology of distant stars
- new results from *SDO, SOHO, Hinode, COROT, MOST* and ground-based helio- and asteroseismology projects.

Monday 10 August

I. Global helioseismology and solar dynamo
11:00 Solar cycle variations of internal structure and rotation *(I)* S. Basu
11:15 Solar core structure and rotation from global oscillations *(I)* W.J. Chaplin
11:30 contributed talk

11:40	3D global simulations of solar turbulent convection zone *(I)*	A.S. Brun
11:55	Flux transport dynamos and torsional oscillations *(I)*	M. Dikpati
12:10	contributed talk	
12:20	Interactions of acoustic waves with solar interior magnetic field *(I)*	S.L. Bi
12:35	lunch	

II. Local helioseismology, numerical simulations, and magnetohelioseismology

14:00	Advances in local helioseismology *(I)*	L. Gizon
14:15	Large-scale solar interior flows *(I)*	U. Mitra-Kraev
14:30	Realistic numerical simulations of solar convection with magnetic field and oscillations *(I)*	A. Nordlund
14:45	2 contributed talks	
15:05	Modeling MHD oscillations and waves *(I)*	P.S. Cally

III. Asteroseismology

15:20	Advances in the theory of asteroseismology *(I)*	G. Houdek
15:35	coffee break	
16:00	2 contributed talks	
16:20	Recent findings on hybrid pulsators *(I)*	G. Handler
16:35	Oscillations of magnetic stars *(I)*	
16:50	Asteroseismology of massive stars *(I)*	A. Noels
17:05	contributed talk	
17:15	Asteroseismology of solar-type stars *(I)*	D. Stello

Tuesday 11 August

11:00	White-dwarf seismology *(I)*	S.O. Kepler
11:15	Asteroseismology of rapidly rotating pulsators *(I)*	W.A. Dziembowski
11:30	contributed talk	
11:40	Pulsating sdB stars *(I)*	S. Charpinet
12:05	3 contributed talks	
12:35	lunch	

IV. New and future observations

14:00	High-resolution helioseismology from *Hinode (I)*	T. Sekii
14:15	Future of helioseismology *(I)*	A.G. Kosovichev
14:30	Solar-cycle long observations from GONG *(I)*	F. Hill
14:45	3 contributed talks	
15:15	New discoveries from *MOST (I)*	J. Matthews
15:30	coffee break	
16:00	Astroseismology results from *CoRoT (I)*	A. Baglin
16:15	Future of asteroseismology *(I)*	J. Christensen-Dalsgaard (tbc)

16:30 5 contributed talks
17:20 closure

JD12 *The First Galaxies – Theoretical Predictions and Observational Clues*
10 - 11 August 2009

Coordinating Division: VIII
SOC chairs: Tommy Wiklind (ESA/USA), Volker Bromm (USA), and Bahram Mobasher (USA).
SOC members: Andrew J. Bunker (Australia), Stéphane Charlot (France), Henry C. Ferguson (USA), Jose A.S. Lima (Brasil), Sandra Savaglio (Germany), Rachel S. Somerville (Germany/USA), and Naoki Yoshida (Japan).
Editors: Tommy Wiklind, Volker Bromm & Bahram Mobasher
Contact: Tommy Wiklind <wiklind@stsci.edu>
URL: <www.stsci.edu/institute/conference/iau09>

Principal topics

- where do we stand today on understanding the formation of the first galaxies, their role in the re-ionization process and what progress can be made in the near future with new observational facilities
- Population III stars
- emergence of the first normal stellar populations
- formation of the first galaxies
- formation of the first AGNs
- co-evolution of stars and AGNs
- massive galaxies in the re-ionization epoch
- sources of re-ionization
- metallicities and dust in the first Gyr
- implications on results from revised stellar synthesis models
- observational challenges.

Preliminary program

I. The first sources of light

The end of the dark ages: basic theoretical framework *(I)*	A. Loeb
The first black holes *(I)*	M. Volonteri
Formation of the First Galaxies *(I)*	J.I. Silk (tbc)
21cm cosmology and re-ionization *(I)*	S.R. Furlanetto (tbc)

II. The first normal stellar populations

Feedback from high-redshift star formation *(I)*	J. Schaye

JD13 *Eta Carinae in the Context of the Most Massive Stars*
12 - 14 August 2009

Coordinating Division: V
SOC chairs: Augusto Damineli Neto (Brasil) and Theodore R. Gull (USA).
SOC members: D. John Hillier (USA), Sveneric Johansson (Sweden), Gloria Koenigsberger (Mexico), Georges Meynet (Switzerland), Nidia Morrell (Chile), Atsuo T. Okazaki (Japan), Stanley P. Owocki (USA), Andy M.T. Pollock (Spain), Nathan Smith (USA), Christiaan L. Sterken (Belgium), Nicole St Louis (Canada), Karel A. van der Hucht (Netherlands), Roberto Viotti (Italy), and Gerd Weigelt (Germany).
Editors: Augusto Damineli, Theodore R. Gull & Krister E. Nielsen (USA)
Contact: Augusto Damineli <damineli@astro.iag.usp.br>
URL: <www.astro.iag.usp.br/~damineli/JD13/>

Principal topics

- the 2009 Eta Car event: monitoring campaigns in X-rays, spectroscopy, radio, interferometry
- origin of the bipolar shape of the Homunculus: rotation *vs.* binary orbit
- the Eta Car ejecta: insight into the central star/system
- the 2009 WR 140 periastron passage: X-rays and other monitoring campaigns
- HD 5980: similarities and differences to Eta Car and WR 140
- models of the wind-wind collision in Eta Car and other massive-star binaries: hydrodynamics, shock and plasma physics
- tidal flows and periastron passage events
- physical parameters of massive binary systems
- evolution of massive binaries: stellar mergers, systems near Eddington limit, supernova progenitors

- mass-loss regimes: giant eruptions, S Doradus instabilities, line-driven winds
- the role of rotation in massive stars: mass-loss, the
- omega-gamma limit
- atomic and molecular physics in Eta Car ejecta.

Preliminary program

Thursday 13 August

09:00	Opening of JD13 - dedication to Sveneric Johansson *(I)*	H. Hartman
09:20	Historical perspective and present understanding of η Carinae *(I)*	K. Davidson
09:50	2 contributed talks	
10:30	coffee break / poster viewing	
11:20	The Eta Carinae stars: stellar and wind properties *(I)*	D.J. Hillier
11:50	2 contributed talks	
12:30	lunch	

Friday 14 August

09:00	Stars near the Eddington limit *(I)*	S.P. Owocki
09:30	2 contributed talks	
10:10	4 × 5 minute poster pushes	
10:30	coffee break / poster viewing	
11:20	Hypernovae and GRB connections *(I)*	N. Smith
11:50	2 contributed talks	
12:30	lunch	
14:00	Wind-wind collision in massive binaries *(I)*	J.M. Pittard
14:30	3 contributed talks	
15:30	coffee break / poster viewing	
16:20	WR 140, HD 5980 and similar massive binary stars *(I)*	G. Koenigsberger
16:50	Summary and discussions	(tbd)

JD14 *FIR2009: the ISM of Galaxies in the Far-Infrared and Sub-Millimetre*
12 - 14 August 2009

Coordinating Division: VI
SOC chair: Maria R. Cunningham (Australia).
SOC members: Susanne E. Aalto (Sweden), Maryvonne Gerin (France), George Helou (USA), Michele Kaufman (USA), Carsten Kramer (Germany), Frank Le

Petit (France), Vincent Minier (France), Toshikazu Ohnishi (Japan), Monica Rubio (Chile), Marco Spaans (Netherlands), and Serena Viti (UK).
Editors: Maria R. Cunningham, Carsten Kramer & Vincent Minier
Contact: Maria R. Cunningham <maria.cunningham@unsw.edu.au>
URL: <www.phys.unsw.edu.au/IAUJD14/>

Principal topics

- new results: what have we learnt about the interstellar medium (ISM) in the Milky Way and other galaxies from new facilities working at far infrared and sub-millimetre wavelengths?
- chemical tracers: what are the key chemical tracers of the different ISM physical environments in the Milky Way and external galaxies ?
- how does feedback from the processes of massive star formation affect the ISM? What role do supernovae explosions play in shaping the ISM, particularly in active star forming environments? How fast do molecular clouds form and evolve? What ends a star burst: negative feedback or the exhaustion of fuel? What effect do galaxy mergers have on the ISM of galaxies?
- how is star formation cycle different in galaxies of low metalicity, such as the LMC and SMC? What is the stellar and protostellar content of molecular clouds in different environments, and does this correlate with the chemical and dynamic properties of the environment?
- active galaxies: how different is the interstellar medium around an AGN compared to that of a compact starburst?
- galaxies at high-redshift: what are the properties of high-redshift galaxies with strong far infrared emission?
- phases of the ISM: the cold and dense molecular ISM is a prerequisite for any star formation; how does it form and how is it dispersed ? what do we know about the cycle of interstellar matter through the various phases of the ISM ?
- mechanisms for heating and cooling: what is the relative importance of shocks, UV-photons, X-rays, cosmic rays in different galactic environments?
- turbulence: what is the mutual relation between star formation and turbulence, and how do the turbulent properties of Galactic and extragalactic star forming regions differ? What mechanisms drive turbulence, and how do they vary with environment?
- what role do magnetic fields play in the ISM? Do they regulate star formation? How do they impact the phase balance in the ISM (e.g., for Galactic fountains)?

Preliminary program

Wednesday 12 August, 11:00 - 17:30

I. ISM phases and star formation in the Milky Way

Triggered star formation and its effect on the interstellar medium *(I)*	V. Minier
Examining the PDR-molecular cloud interface at millimetre and infrared wavelengths *(I)*	R. Simon
Star formation from submillimetre and infrared surveys *(I)*	D.I. Johnstone

Thursday 13 August, 09:00 - 12:30

II. *Nearby galaxies: similarities and differences to the Milky Way*

Star formation and the ISM in the Magellanic Clouds with the new Atacama telescopes *(I)*	M. Rubio
Chemistry in nearby galaxies *(I)*	J.L. Turner
The phase structure of the ISM in galaxies *(I)*	M.G. Wolfire

Friday 14 August, 09:00 - 12:30

III. Galaxies at high redshift

Molecular line studies at redshift $z > 1$ *(I)*	F. Combes
Probing the star formation history of high-z galaxies *(I)*	D. Elbaz
HI searches for DLAs *(I)*	J.M. Chengalur

JD15 *Magnetic Fields in Diffuse Media*
12 - 14 August 2009

Coordinating Division: VI
SOC chairs: Elisabete M. de Gouveia Dal Pino (Brasil) and Alex Lazarian (USA).
SOC members: Mitchell C. Begelman (USA), Michael A. Dopita (Australia), Torsten A. Ensslin (Germany), Edith Falgarone (France), José Franco (Mexico), Shu-ichiro Inutsuka (Japan), Germán Lugones (Brasil), Christopher F. Mckee (USA), and Giancarlo Setti (Italy).
Editors: Elisabete M. de Gouveia Dal Pino & Alex Lazarian
Contact: Elisabete M. de Gouveia Dal Pino <dalpino@astro.iag.usp.br>
URL: <iaujd-mf.blogspot.com/>

Principal topics

- magnetic fields, their origin, and their influence on the formation and evolution of astrophysical objects (stars, galaxies, cooling flows)

- quantitative studies of magnetic fields, the results of which can be compared with the results of dynamo and MHD turbulence simulations
- questions related to the origin of astrophysical magnetic fields in diffuse gas and quantify their effects on transport processes in the interstellar medium of spiral galaxies and in the intracluster medium, to get better insight into star formation, acceleration of cosmic rays, and transfer of matter, and energy between the diffuse and dense gas
- summarize the progress achieved recently
- outline the remaining outstanding problems, and review the progress of the 21st century instruments and projects for cosmic magnetic field investigation such as, upgraded SOFIA, *Planck*, LOFAR, ALMA and SKA
-

Preliminary program

Wednesday 12 August

11:00	Opening	E. M. de Gouveia Dal Pino & A. Lazarian

I. Observing magnetic fields

11:00	Magnetic fields in HI from Zeeman measurements *(I)*	C. Heiles
	Brazilian-French polarimetric survey *(I)*	A.M. Magalhaes
	Cosmic magnetic field observations with next generation instrumentation *(I)*	B.M. Gaensler
	panel discussion	
12:30	lunch	

II. Basic plasma and MHD processes

14:00	The solar wind interaction with space environment and the new data from the *Hinode* satellite *(I)*	K. Shibata
	Dynamo theory *(I)*	E.T. Vishniac
	Magnetic dynamo over different astrophysical scales *(I)*	A. Brandenburg
	Turbulent reconnection of magnetic fields and implications *(I)*	A. Lazarian
	panel / poster discussion	
15:30	coffee break / poster viewing	

III. MFs in ISM and the SF connection. 1

16:00	Role of magnetic fields for star formation *(I)*	C.F. McKee
	Role of magnetic fields in molecular clouds *(I*	R.M. Crutcher

Instabilities in magnetized ISM *(I)* S. Inutsuka
panel/poster discussion

Thursday 13 August

IV. MFs in ISM and the SF connection. 2
Observational constraints on magnetic fields in molecular clouds *(I)* E. Falgarone
Modeling of magnetized interstellar medium *(I)* E. Vazquez-Semadeni
Magnetic field effects on the evolution of molecular clouds and star formation *(I)* S. Lizano
Magnetic field diagnostics with aligned atoms *(I)* H.-J. Yan
panel discussion
10:30 coffee break / poster viewing

V. MFs in Galaxies
11:00 Magnetic fields in different types of galaxies *(I)* M.A. Dopita
Magnetic fields in Galactic halos and the SN connection *(I)* E.M. de Gouveia Dal Pino
Galactic outflows and the Local Superbubble *(I)* M.P. de Avillez
panel/poster discussion
12:30 lunch

Friday 14 August

VI. Magnetic Fields in the ICM and beyond
09:00 Magnetic turbulence in clusters of galaxies *(I)* T.A. Ensslin
Origin of cosmic fields *(I)* E.G. Zweibel
Magnetic fields in primordial plasmas *(I)* K.R. Subramanian
Cosmic rays in magnetized intracluster plasma *(I)* L. Feretti
panel/poster discussion
10:30 break and poster session

VII. MHD turbulence in all scales
11:00 Magnetic turbulence from Faraday rotation measurements *(I)* M. Haverkorn
Models of particle re-acceleration by magnetic turbulence in galaxy clusters *(I)* G. Brunetti
Properties of MHD turbulence and its consequences for ISM and intracluster media *(I)* D. Falceta-Goncalves
panel discussion
Summary A. Lazarian & E.M. de Gouveia Dal Pino
12:30 lunch

JD16 *IHY Global Campaign – Whole Heliosphere Interval*
12 - 14 August 2009

Coordinating Division: II
SOC chair: Barbara J. Thompson (USA)
SOC members: Dipankar P.K. Banerjee (India), Andrew R. Breen (UK), Hebe Cremades (Argentina), Norma B. Crosby (Belgium), Robert J. Forsyth (UK), Antoinette B. Galvin (USA), Katya Y. Georgieva (Bulgaria), Sarah E. Gibson (USA), Janet U. Kozyra (USA), Ian R. Mann (Canada), Giannina Poletto (Italy), Kazunari Shibata (Japan), Richard Stamper (UK), and David F. Webb (USA).
Editors: Sarah E. Gibson & David F. Webb
Contact: Barbara J. Thompson <Barbara.J.Thompson@nasa.gov>
URL: <ihy2007.org/WHI/jd16.shtml>

Principal topics

- science from the International Heliophysical Year – Global Campaign called the Whole Heliosphere Interval (WHI).
- new capabilities in observations and models to advance our understanding of the heliophysical system.
- WHI occurs during solar minimum,
- the primary science goals of WHI are to:
  - characterize the 3-D solar minimum heliosphere,
  - trace the effects of solar structure and activity through the solar wind to the Earth and other planetary systems, and to the outer boundary of the heliosphere.

Preliminary program

Wednesday 12 August

I. *Characterizing the WHI solar minimum heliosphere*
1) The 3-D WHI Sun: Solar structure observations and models *(I)*
2) The 3-D WHI Heliosphere: Models and observations of solar wind, and large-scale structures *(I)*
3) Solar irradiance variation and geospace connections during WHI *(I)*

Thursday 13 /Friday 14 August

II. Connecting the WHI Sun to planets and points of space observations
1) High-speed streams and CIR streams observed during WHI and their impact on geospace *(I)*
2) Interplanetary scintillation and heliospheric imaging during WHI: connections to models and geospace *(I)*
3) Coronal mass ejections and interplanetary CME's during WHI *(I)*

4) Space weather: observations and modeling of WHI space weather phenomena *(I)*

Friday 14 August
III. Comparing the WHI solar minimum to others

I.6.8. SPECIAL SESSIONS

SpS1 *IR and Sub-mm Spectroscopy – a New Tool for Studying Stellar Evolution*
3 - 5 August 2009

Coordinating Division: IV
SOC chairs: Glenn M. Wahlgren (USA), Hans Ulrich Käufl (Germany), and Florian Kerber (Germany).
SOC members: France Allard (France), Thomas R. Ayres (USA), Steven R. Federman (USA), Carol A. Grady (USA), Bengt Gustafsson (Sweden), Kenneth H. Hinkle (USA), Chiyoe Koike (Japan), John Lattanzio (Australia), Gillian Nave (USA), Livia Origlia (Italy), Peter Schilke (Germany), Jonathan Tennyson (UK), Stepan Urban (Czech Rep.), and Ewine F. van Dishoeck (Netherlands).
Editors: Glenn M. Wahlgren, Hans Ulrich Käufl & Florian Kerber
Contact: Florian Kerber <fkerber@eso.org>
URL: <www.eso.org/sci/meetings/iau2009-sps1/>

Principal topics

- impacting stellar evolution with IR and sub-mm spectroscopy pre- and early main sequence stars
- ground-based instrumentation IR spectroscopy in the ELT era
- main sequence stars: physical properties from spectrum analysis
- atomic and molecular data for IR and sub-mm spectroscopy
- solid state physics for spectrum analysis
- evolved stars: properties and processes
- current and future airborne and space missions
- Earth's atmosphere and the IR sky.

Preliminary program

Monday 3 August

I. Impacting stellar evolution with IR and sub-mm spectroscopy
11:00 The impact of IR and sub-mm spectroscopy on understanding stellar evolution *(I)* — J.H. Black (tbc)
IR large surveys - preparing for the harvest *(I)* — D.L. Padgett
contributed talks

II. Pre- and early main-sequence stars – clusters of stars

14:00 From molecular clouds to massive stars *(I)* M.R. Cunningham
Embedded young stellar objects and the formation of clusters *(I)*
Massive stars in clusters and the Galactic Center *(I)*
Other topics

III. Pre- and early main-sequence stars (cont'd)

16:00 Circumstellar disks and their evolution *(I)* K. Pontopiddan (tbc)
Development of jets, outflows and HH objects *(I)* A.C. Raga
Pre-main sequence stars with disks *(I)* M. Goto
contributed talks

Tuesday 4 August

IV. Ground-based instrumentation - towards ELTs

11:00 An overview of instrumentation for near-infrared spectroscopy *(I)* E. Oliva
An overview of instrumentation for sub-millimeter spectroscopy *(I)* P.T.P. Ho
An overview of instrumentation for mid-infrared spectroscopy *(I)* D.T. Jaffe

Wednesday 5 August

V. Main sequence stars

11:00 *L*, *T*, Brown dwarfs *(I)* I. Baraffe (tbc)
Spectrum modelling *(I)* P.H. Hauschildt (tbc)
Abundance studies *(I)*
Magnetic fields from IR atomic and molecular lines *(I)*

VI. Atomic and molecular data for IR and sub-mm spectroscopy

14:00 Atomic data *(I)* G. Nave
Molecular data *(I)* P.F. Bernath
Solid state *(I)* C. Koike
Calibration reference data *(I)*

VII. Future airborne and space missions

16:00 SOFIA *(I)* R.D. Gehrz
Herschel (I)
JWST (I)
Other topic(s)

Thursday 6 August

VIII. Evolved stars

09:00 Giants and supergiants
- o Observations and analyses *(I)*
- o Atmospheric models *(I)* — S. Hoefner (tbd)
- o Effects of mass loss on stellar evolution *(I)*

Post-AGB stars *(I)* — V. Bujarrabal

IX. Evolved stars (cont'd)

11:00 Cataclysmic variables, symbiotic stars, novae, SN *(I)* — N.J. Evans

Nucleosynthesis and isotopic analysis from infrared spectra *(I)*

Globular clusters *(I)* — E. Valenti

X. Earth atmosphere and the IR sky

14:00 Atmospheric modelling *(I)* — D.H. Rothman (tbc)
- o OH emission *(I)*
- o Water vapour *(I)*

Real-time sounding with adaptive optics *(I)*

IR spectro-photometric standard stars *(I)*

SpS2 ***The International Year of Astronomy 2009***
3 - 5 August 2009

Coordinating Division: XII
SOC chair: Catherine J. Cesarsky (France).
SOC members: Yolanda Berenguer (UNESCO, France), Ian F. Corbett (IAU, UK), Dennis Crabtree (Canada), Susana E. Deustua (USA), Kevin Govender (South Africa), Mary Kay M. Hemenway (USA), Robert Hill (UK), Douglas Isbell (USA), Norio Kaifu (Japan), Lars Lindberg Christensen (Denmark, ESA/ESO), Claus Madsen (Denmark, ESO), Ian E. Robson (UK), and Pedro Russo (IAU, Portugal).
Editors: Catherine J. Cesarsky, Lars Lindberg Christensen & Pedro Russo
Contact: Pedro Russo <prusso@eso.org>
URL: <http://www.astronomy2009.org/events/IAUGA>

Principal topics

- communicating astronomy to the public
- astronomy education
- cooperation and development
- IYA global projects (Cornerstones and Special Projects)
- IYA national activities
- astronomy and new media
- the impact and legacy of IYA

Preliminary program

Welcome on behalf of the IAU *(I)* C.J. Cesarsky
Welcome on behalf of the UNESCO *(I)* Y. Berenguer
Coordinating IYA2009 *(I)* P. Russo, L. Lindberg Christensen
National activities: status reports from 15 countries
Organisational Node activities: status reports
- European Southern Observatory
- Astronomical Society of the Pacific
- International Education and Resource Network
- Space Generation Advisory Council
- International Planetarium Society

Cornerstones: status reports
- 100 Hours of Astronomy
- The Galileoscope
- Cosmic Diary
- The Portal to the Universe
- She is an Astronomer
- Dark Skies Awareness
- Astro & World Heritage
- Galileo Teacher Training Program
- Universe Awareness
- From Earth to the Universe
- Developing Astronomy Globally

Special projects: status reports *(I)* M. Barrosa
IYA2009 evaluation *(I)* P. Russo, L. Lindberg Christensen, M. Barrosa
IYA2009 legacy: expectations *(I)* C.J. Cesarsky
General discussion (chair: S. Deustua)
IYA2009 legacy towards IAU Strategic Plan on Astronomy for the developing world *(I)* G.K. Miley
Astronomy and media: rewards and problems *(I)* A. Brahic
The International Year of Planet Earth *(I)* Ed de Mulder
Lessons learnt (tbd)

SpS3 ***Astronomy in Antarctica***
6 - 7 August 2009

Coordinating Division: IX
SOC chair: Michael G. Burton (Australia).
SOC members: Carlos A. Abia (Spain), John E. Carlstrom (USA), Vincent Coudé du Foresto (France), Xiangqun Cui (China), Sebastián Gurovich (Argentina), Takashi Ichikawa (Japan), James P. Lloyd (USA), Mark J. McCaughrean (UK), Gino Tosti (Italy), and Hans Zinnecker (Germany).

Editor: Michael G. Burton
Contact: Michael G. Burton <m.burton@unsw.edu.au>
URL: <www.phys.unsw.edu.au/jacara/iau>
Principal topics

- the current state of Antarctic astronomy, with winter-time facilities now operating at both South Pole and Dome C on the high plateau,
- plans for astronomical facilities at Domes A and F
- review of status of these facilities
- new science results, including results from the International Polar Year of 2007/08.
- grand design observatories, facilities that might be built in the future, once the new high plateau bases are well established.
-

Preliminary program

Outline Program (* denotes confirmed speaker)

I. Overview of Antarctic Astronomy

Introduction & Overview *(I)*	M.G. Burton
The SCAR Scientific Research Program: Astronomy and Astrophysics from Antarctica *(I)*	J.W.V. Storey

II. The South Pole

The South Pole Telescope *(I)*	J.E. Carlstrom (tbc)
IceCube *(I)*	K. Filimonov
Future plans *(I)*	V. Papatishvili

III. Dome C

ARENA, a roadmap for astronomy in Antarctica at Concordia Station (Dome C) *(I)*	N. Epchtein
The IRAIT telescope project *(I)*	(tbd)
Future plans *(I)*	V. Coudé du Foresto

IV. Dome A

The CSTAR telescope *(I)*	X.-Q. Cui
The PLATO site testing observatory *(I)*	M. Ashley
Future plans *(I)*	L. Wang

V. Dome F

Plans for Dome F *(I)*	T. Ichikawa

VI. McMurdo Long Duration Balloon Facility

The Stratospheric Terahertz Observatory *(I)*	Member of the STO consortium

VII. Visions for Antarctic Astronomy
Science for the Antarctic Plateau: what should we do? *(I)* H. Zinnecker

SpS4 *Astronomy Education between Past and Future*
6 - 10 August 2009

Coordinating Division: XII
SOC chairs: Rajesh Kochhar (India), Jean-Pierre de Greve (Belgium), and Edward F. Guinan (USA).
SOC members: John B. Hearnshaw (New Zealand), George K. Miley (Netherlands), Ian E. Robson (UK), Rosa M. Ros (Spain), Il Seong Nha (Rep. of Korea), Malcolm G. Smith (USA), and Antonio Videra (Brasil).
Editors: Rajesh Kochhar, Jean-Pierre de Greve, Magda G. Stavinschi & Edward F. Guinan
Contacts: Rajesh Kochhar <rkochhar2000@yahoo.com>
Jean-Pierre de Greve <jpdgreve@vub.ac.be>
URL: <tbd>

Principal topics

- research and best practices in teaching and learning methodologies in sciences, specifically in physics
- astronomy as a trigger towards science education (including best practices in innovative astronomy teaching)
- cultural and historical astronomy: the importance of non-western views of the skies for astronomy teaching in both developing and developed countries
- teaching astronomy in developing countries
- innovative learning and training initiatives other than teaching
- the role of astronomy education at specific phases and ages, from age 4 to university/PhD
- the use of educational telescopes
- IAU sponsored education and development programs
- networking activities enhancing connectivity among young people in the International Astronomical Year
- the IAU decadal plan for world astronomy.

Preliminary program
(tbd)

SpS5 ***Accelerating the Rate of Astronomical Discovery***
11 - 14 August 2009

Coordinating Division: XII
SOC chairs: Raymond P. Norris (Australia) and Clive L.N. Ruggles (UK).
SOC members: David H. DeVorkin (USA), Françoise Genova (France), Bambang Hidayat (Indonesia), Norio Kaifu (Japan), Rajesh Kochhar (India), Vicent J. Martinez-Gracia (Spain), Malcolm Smith (Chile), Robert Smith (Canada), Magdalena G. Stavinschi (Romania), Virginia L. Trimble (USA), Sueli M.M. Viegas (Brasil), Patricia A. Whitelock (South Africa), and Shi Yunli (China)

Principal topics

- the impact of concentrating resources on big instruments rather than small ones
- the impact of electronic access to data and publications - could we do it better?
- have we achieved the best way to allocate time on major telescopes?
- is astronomical progress limited by discrimination or by the 'Digital Divide'?
- what will be the impact of enormously large data sets?
- are our telescopes and their instrumentation approaching fundamental physical limits?
- how do we balance popular "bandwagons" against innovative but less popular ideas?
- do we have the optimal system for training young astronomers?
- do we need more cross-fertilisation between disciplines and fields?
- how should we optimize international collaboration, particularly on major missions?

Editors: Raymond P. Norris & Clive L.N. Ruggles
Contact: Raymond P. Norris <ray.norris@csiro.au>
URL: <http://www.le.ac.uk/has/c41/sps5/>

Preliminary program

I. Back to the future
What has worked well in the past? What can we learn from case studies in 20th century astronomy that might inform astronomical progress in the 21st century,

II. Creativity and innovation
Do we understand the process of creativity and innovation and are we providing the right environment for them to flourish? Or do we crowd out innovative thinking? Have we struck the right balance between popular "bandwagons" and innovative but less popular ideas?

III. Big or small?
Is progress enhanced or limited by concentrating resources on big instruments (e.g. National Facilities) rather than small ones (e.g. University Department instruments)?

IV. Data and information
What has been the impact of our growing ease of electronic access to data and publications? How could it be better?

V. Resource allocation
How effective are decadal plans? Have we achieved the best way to allocate time on major telescopes? Do peer-reviewed proposals necessarily produce better science than projects allocated time outside the peer-review system?

VI. Discrimination
Is astronomy's ability to tap into the brightest minds being limited by discrimination (age, gender, nationality, religion, ethnicity, wavelength, handicaps, etc.), by the Digital Divide, or by the gap in astronomy support between rich and poor countries?

VII. Limits to growth
Are there limits to the growth of the astronomical community? Are we approaching fundamental limits of our telescopes and their instrumentation, such as quantum and statistical limits?

VIII. Education
Do we have the optimal system for training young astronomers in developed countries? How do we educate scientists in less developed countries?

IX. Cross-fertilisation and collaboration
Do we need more cross-fertilisation between astronomy and other disciplines?

X. Astronomy in culture
How is the progress of modern western astronomical research influenced by wider perceptions of astronomy, and of science in general?

Confirmed invited speakers:
Roger M. Bonnet (France), David H. DeVorkin (USA), Françoise Genova (France), Virginia L. Trimble (USA), Simon D.M. White (Germany), Patricia A. Whitelock (South Africa), Robert Williams (USA).

SpS6 ***Planetary Systems as Potential Sites for Life***
10 - 11 August 2009

Coordinating Division: III
SOC chair: Régis Courtin (France)
SOC members: Carlo Blanco (Italy), Alan P. Boss (USA), Guy J. Consolmagno (Vatican City), Cristiano B. Cosmovici (Italy), Pascale Foing Ehrenfreund (Netherlands), Leonid V. Ksanfomality (Russia), Luisa M. Lara (Spain), David W. Latham (USA), Michel Mayor (Switzerland), Melissa A. McGrath (USA), Karen J. Meech (USA), David Morrison (USA), John R. Spencer (USA), Viktor G. Tejfel (Kazakhstan), and Stephane Udry (Switzerland).
Editors: Régis Courtin, Alan P. Boss & Michel Mayor
Contact: Régis Courtin <regis.courtin@obspm.fr>
URL: < www.iaa.es/IAUComm16/IAU%20XXVIIth%20GA%20SPS6.pdf >

Principal topics

- recent advances in Solar System sciences, Bioastronomy, and Extrasolar Planetology in connection with studying the conditions for the emergence of life on other worlds
- results from recent space missions investigating Mars and the satellites of the giant planets for environments potentially suitable for life
- the search for and characterization of extrasolar planets, and the search for life outside the Solar System
- space-based and/or laboratory experiments and simulations, as well as the analysis of extraterrestrial samples
- projects under development for the next decade
- outstanding figures in the development of Bioastronomy.

Preliminary program

I. Sites for life in the Solar System

Life in the deep subsurfaces of Earth and Mars *(I)*	L.M. Pratt
Methods for detection of life forms in Martian materials *(I)*	A. Steele
Europa, Enceladus, and Titan as possible sites for life *(I)*	R. Courtin
Comets and the origin and evolution of life *(I)*	A. Lazcano

II. Laboratory and space experiments

Gas-phase prebiotic chemistry in extraterrestrial environments *(I)*	N. Balucani
The SETUP and SEMAPHORE experiments *(I)*	M.-C. Gazeau
The EXPOSE/ISS and BIOPAN/Foton experiments *(I)*	H. Cottin
The O/OREO mission *(I)*	P.F. Ehrenfreund

III. The Search for low-mass extrasolar planets
The search for low-mass exoplanets *(I)* — M. Mayor
CoRoT and the search for big Earths *(I)* — M. Deleuil
Microlensing detection of quasi-Earths *(I)* — D.P. Bennett
Infrared transit spectroscopy *(I)* — G. Tinetti

IV. Habitability of extrasolar planets
Modelling extrasolar planetary atmospheres *(I)* — F. Allard
Remote-sensing of habitability and life *(I)* — V.S. Meadows
Defining the envelope for the search for life in the Universe *(I)* — L.J. Rothschild
Earthshine observations and the detection of vegetation on extrasolar planets *(I)* — D. Briot

V. Missions and surveys under development
Mars Science Laboratory and future Mars missions *(I)* — M. Cabane
The *Kepler* Mission *(I)* — N. Batalha
The *Gaia* Astrometric Survey *(I)* — A. Sozzetti
The SEE-COAST concept *(I)* — A. Boccaletti

VI. Remembering pioneers in bioastronomy
Gavriil Adrianovich Tikhov (1875-1960), a pioneer in astrobiology *(I)* — V.G. Tejfel
Leslie Orgel (1920-2007) and the RNA world *(I)* — P.F. Ehrenfreund
Jean Heidmann (1923-2000) and SETI *(I)* — R. Courtin
George Wetherill (1925-2006), geochemist, planetary scientist, and astrobiologist *(I)* — A.P. Boss
Stanley Miller (1930-2007) and the origins of life *(I)* — A. Lazcano

SpS7 Young Stars, Brown Dwarfs, and Protoplanetary Disks
11 - 14 August 2009

Coordinating Division: VI
SOC chairs: Jane C. Gregório-Hetem (Brasil) and Silvia H.P. Alencar (Brasil).
SOC members: Francesca D'Antona (Italy), Nuria Calvet (USA), Gilles Chabrier (France), Eric D. Feigelson (USA), Sergei A. Lamzin (Russia), Susana Lizano (Mexico), Robert D. Mathieu (USA), Thierry Montmerle (France), Antonella Natta (Italy), Bo Reipurth (USA), Hsien Shang (China Taiwan), Michael Sterzik (Chile), Ewine F. van Dishoeck (Netherlands), and Hans Zinnecker (Germany).
Editors: Jane C. Gregório-Hetem & Silvia H.P. Alencar
Contact: Jane C. Gregório-Hetem <jane@astro.iag.usp.br>
URL: <www.fisica.ufmg.br/~ss7iau09>

Principal topics

- properties of circumstellar disks
- accretion in brown dwarfs, T Tauri and Herbig Ae/Be stars
- jets and outflows from young stars
- angular momentum transport (throughout pre-main sequence evolution)
- planet formation and evolution
- brown dwarf and star formation and early evolution
- the role of magnetic fields in pre-main sequence evolution
- high-energy and eruptive phenomena in young stellar objects
- the role of binary and multiple systems in PMS evolution and planet formation/evolution
- young stars and their birthplaces in the solar neighborhood.

Preliminary program

Tuesday 11 August
I. Properties of circumstellar disks; Accretion in brown dwarfs, T Tauri stars and Herbig Ae/Be stars.
11:00 Opening
11:20 Accretion disks in the sub-stellar realm: properties and evolution *(I)* R. Jayawardhana
11:50 2 contributed talks
12:30 lunch
14:00 *(I,* tbd*)* J. Muzerolle
14:30 2 contributed talks
15:10 poster session
15:30 coffee break
16:00 Structure and evolution of protoplanetary disks *(I)* and their dust content C.P. Dullemond
16:30 3 contributed talks

Wednesday 12 August

II. The role of magnetic fields and high-energy phenomena in young stellar objects, and their effects on protoplanetary disks
11:00 (*I*, tbd)
11:30 3 contributed talks
12:30 lunch

III. Jets and outflows from young stars. The angular momentum transport throughout pre-main sequence evolution
14:00 Observational tests of jet models in T Tauri stars *(I)* S. Cabrit
14:30 2 contributed talks

15:10 poster session
15:30 coffee break
16:00 (*I*, tbd) S. Mohanty
16:30 3 contributed talks

Thursday 13 August

IV. Planet formation and evolution; Brown dwarf and star formation and early evolution. The role of binary and multiple systems in PMS evolution and planet evolution
09:00 The early evolution of low mass stars and brown dwarfs *(I)* I. Baraffe
09:30 3 contributed talks
10:30 coffee break
11:00 poster session
11:20 (*I*, tbd)
11:50 2 contributed talks
12:30 lunch

Friday 14 August
09:00 Stellar multiplicity and the prospects for planet formation *(I)* G. Duchêne
09:30 3 contributed talks
10:30 coffee break
11:00 poster session
11:20 Stellar and brown dwarf properties from numerical simulations *(I)* M.R. Bate
11:50 contributed talk
12:10 Summary and concluding remarks (tbd)

SpS8 *The Galactic Plane – in Depth and Across the Spectrum*
11 - 14 August 2009

Coordinating Division: VI
SOC chairs: Nicholas A. Walton (UK) and Augusto Damineli Neto(Brasil).
SOC members: Janet Drew (UK), Paul J. Groot (Netherlands), Myung Gyoon Lee (Rep. of Korea), Melvin Hoare (UK), Xiao-Wei Liu (China Nanjing), Eugene A. Magnier (USA), Naomi M. McClure-Griffiths (Australia), Dante Minniti (Chile), Sergio Molinari (Italy), Josep M. Paredes Poy (Spain), Rene Plume (Canada), Annie C.R. Robin (France), Patricia A. Whitelock (South Africa), and Barbara A. Whitney (USA).
Editors: Janet E. Drew & Melvin G. Hoare
Contact: Nicholas A. Walton <naw@ast.cam.ac.uk>
URL: <www.ast.cam.ac.uk/IAUGP>

Principal topics

- Galactic plane surveys: past, present and future
- getting the measure of the Milky Way
- the structure of the inner Galaxy
- the disk inside and outside the Solar Circle
- tracing chemical properties and gradients in the Galactic Plane
- disentangling the star formation process from disk substructure
- mapping star formation across the Galactic Plane
- the demography and life cycle of star clusters
- red giants and other evolved stars as tracers
- sampling the extreme phases and end-states of stellar evolution.

Preliminary program

Tuesday 11 August

I. The new generation surveys - setting the scene: the state of the art in the following wavelength domains: high energy; optical broadband, H-alpha, near+mid infrared, far infrared, submm, radio CO, radio HI

11:00 The gamma-ray Galaxy: high-energy surveys *(I)* S. Wagner
11:30 Optical Surveys of the Galactic Plane *(I,* tbc*)* M.S. Bessell
12:00 The UKIDSS Galactic Plane Survey" *(I)* P.W. Lucas
12:30 lunch

II. Getting the measure of the Milky Way, understanding the stellar, gas and dust distribution, extinction laws

14:00 Extinction in the Galactic Plane *(I,* tbc) D.J. Marshall
15:30 coffee break

IIIa. The inner galactic plane (bulge, bar and inner disk): results from micro-lensing; mid-IR view of stellar populations in the inner Galaxy

16:00 The many bars of the Milky Way Galaxy *(I)* R.A. Benjamin

IIIb. The disk, inside and outside the Solar: spiral structure from HI; the nature and extent of the outer disk

The disk of our Galaxy: spiral structure from star-forming complexes; the nature and extent of the outer disk *(I)* D. Russeil

Wednesday 12 August

IV. Tracing chemical properties and gradients particularly focusing on abundance gradients from nebulae, stars and star clusters

11:00 Tracing abundance gradients in the Plane *(I)* T.L. Bensby
Abundance gradients: tracing the chemical properties of the disk *(I)* R.D.D. Costa

12:30 lunch

V. Disentangling the star forming process and structure in the disk the how and why of molecular cloud collapse; distinguishing different modes of star formation, clusters and their mass function

14:00 Modelling star formation (*I*, tbc) S.P. Goodwin
Statistical properties of massive stars as a product of the star formation process*(I)* M.S. Oey
15:30 coffee

VI. Mapping star formation in the Galactic disk a global perspective; tracing massive star formation

16:00 Massive star formation across the plane *(I)* S.E. Kurtz

Thursday 13 August

VII. Luminous evolved stars: a key tracer population variable stars as tracers; absolute magnitudes of clump giants

09:00 Luminous variable stars as distance tracers *(I)* M.W. Feast
Red clump giant stars as tracers of Galactic structure *(I)* M. Lopez-Corredoira
10:30 coffee

VIIIa. End-states of low-mass stellar evolution (to include: the global distribution of PNe, decoding the local white dwarf population)

11:00 Mapping Planetary Nebulae in the Galaxy (*I*, tbc) R.L.M. Corradi

VIIIb. End-states of massive-star evolution (to include: the pulsar distribution; the astrophysics of extreme objects)

The Galactic distribution and evolution of pulsars *(I)* D. Loriner
12:30 lunch

Friday 14 August

IX. Multi-object multi-wavelength Galactic plane studies in the VO era show casing studies that combine data from more than one survey in new ways

09:00 Multi-wavelength surveys in the era of the Virtual Observatory, a critical assessment *(I)* G.F. Gilmore
10:30 coffee break

X. Closure: perspective on the future the path ahead to *GAIA*, *JASMINE*, and *LSST*

11:00 *Gaia*, a Galactic Census *(I)* T. Prusti
Dissecting the Milky Way with LSST Z. Ivezic
12:30 lunch

SpS9 ***Marking the 400th Anniversary of Kepler's "Astronomia Nova"***
11 - 14 August 2009

Coordinating Division: XII
SOC chair: Terence J. Mahoney (Tenerife, Spain).
SOC members: Stanislaw Bajtlik (Poland), Allan Chapman (UK), Judith V. Field (UK), Michael Geffert (Germany), Petr Hadravâ (Czech Republic), David G. Koch (USA), Rhonda Martens (Canada), Jay M. Pasachoff (USA), Thomas Posch (Austria), Bruce Stephenson (USA), Jill C. Tarter (USA), Jan Vondrâk (Czech Republic), and Jaroslaw Wlodarczyk (Poland).
Editor: Terence J. Mahoney
Contact: Terence J. Mahoney <tjm@iac.es>, <kepler2009@iac.es>
URL: <http://www.iac.es/congreso/kepler2009>

Principal topics

Kepler and astronomical thought in transition:
- Kepler and the philosophy of science
- the relation between Kepler's astrology and astronomy
- comparison of Kepler's and Pico's critiques of astrology
- Kepler and Galileo

The great synthesis, Kepler's multifaceted new astronomy:
- Kepler as the father of modern astronomy
- Kepler and Tycho
- Kepler's major works
- Kepler's revolutionizing of optics
- Kepler's mathematical astronomy

The laws of planetary motion:
- "Astronomia nova": Kepler at work
- Kepler's magnetic theory of planetary dynamics
- Kepler's cosmology, the 3rd law and cosmic harmony
- Kepler's journey to the moon

Preliminary program

Kepler's cosmology *(I)*	J.V. Field
Kepler and the philosophy of science *(I)*	R. Maartens
Kepler's astrology *(I)*	S.J. Rabin
Was There a Keplerian Revolution? *(I)*	G. Hon
Observational Background to Kepler's Laws *(I)*	A. Chapman (tbc)
Kepler's Laws: Some Myths Dispelled *(I)*	E.L. Davis
Kepler and the Birth of Celestial Physics *(I)*	B. Stephenson
Kepler's Optics *(I)*	(tbd)
The Work of the Kepler Commission *(I)*	(tbd)

Kepler's Books *(I)* J.M. Pasachoff
Kepler's *Somnium (I)* J. Wlodarczyk
The *Kepler* Mission's Search for Earth-sized Planets *(I)* (tbd)

SpS10 *Next Generation Large Astronomical Facilities*
14 August 2009

Coordinating Division: XII
SOC chairs: Gerard F. Gilmore and Richard T. Schilizzi
SOC members: tbd.
Editor: Gerard F. Gilmore & Richard T. Schilizzi
Contact: Gerard F. Gilmore <gil@ast.cam.ac.uk>
URL:

Principal topics

The international astronomy community is planning and developing an exciting and powerful range of new facilities. This Special Session will present the status and scientific program of those facilities which are under development and/or definition, and so (probably) will become real in the near future to the medium term. The program will provide an overview of those projects which will become naturally complementary facilities in both implementation data and wavelength (or non-electromagnetic) coverage, and in which there is currently significant effort and new developments. Funding and strategy agencies (ASTRONET, ESFRI, US Decadal Survey, ...) will present their plans and status. Space missions are under development by all the many agencies; ground-based facilities include particularly the large survey facilities, linked to the community through the International Virtual Observatory; new large inherently international radio facilities, especially SKA and its precursors; the several Extremely Large optical/-infrared Telescopes; developing Cosmic Ray Facilities, and the non-electromagnetic newest developments, gravitational wave and neutrino astronomy. The style of this Special Session will follow the successful Special Session 1 at the IAU XXVI General Assembly in Prague, 2006 Ref: IAU Highlights of Astronomy Volume 14, ed. K.A. van der Hucht (CUP), p.519.

Preliminary program
(tbd)

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PART II **IAU Information Bulletin No. 103**

II.1. EVENTS AND DEADLINES

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Proposals for IAU Symposia in 2011
should reach the Assistant General Secretary
via the IAU Proposal Web Server
<http://www.iau.org/science/meetings/proposals/lop/>
before 1 December 2009

Letters-of-Intent should be submitted to the IAU web page
<www.iau.org/science/meetings/proposals/loi>
before 15 September 2009

See: www.iau.org/science/meetings

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2009

Jan 15-16	***Opening Ceremony International Year of Astronomy 2009***, UNESCO Hq, Paris, France
Jan 23-27	**IAU S260, *The Role of Astronomy in Society and Culture*,** *Paris, France*
Feb 1	Due date for agenda items and documents for Officers' Meeting and 85th EC Meeting, April 6-8, 2009
Mar 1	Deadline for applications for the Peter and Patricia Gruber Foundation Fellowship 2009
Mar 30 – Apr 4	***Frontiers of Space Astrophysics: Gamma Ray Bursts & Neutron Stars, Recent Developments & Future Directions***, *The New Library, Alexandria, Egypt*
Apr 1	Due date for bid books proposing to host the IAU XXIX General Assembly in 2015
Apr 6-8	IAU Officers' Meeting and 85th Executive Committee Meeting, Paris, France
Apr 27-May 1	**IAU S261, *Relativity in fundamental astronomy – dynamics, reference frames and data analysis***, *Virginia Beach, VA, USA*
May 1	Due date for contributions to IAU IB 104
May 1	Due date for agenda items and documents for 86th IAU EC Meeting, August 2, 2009 in Rio de Janeiro
June 15	Due date for agenda items and documents for 87th IAU EC Meeting, August 14, 2009 in Rio de Janeiro
July 25-29	***Dynamic solar corona and its impact on space weather***,

	International Conference in *Suzhou, Jiangsu Province, China*
July 29- Aug 3	***Astronomical Instruments from the Antikythera Mechanism to the de Dondi's Astrarium,*** *Budapest, Hungary*
Aug 3-14	**IAU XXVII General Assembly**, *Rio de Janeiro, Brasil,* with associated Invited Discourses, Symposia, Joint Discussions, Special Sessions, Division/Commission/WG Business Meetings, Executive Committee meetings EC86 and EC87
Sep 15	Due date for Letters-of-Intent proposing IAU Symposia in 2011
Sep 28-Oct 3	***Astronomy and its Instruments Before and After Galileo***, *Venice, Isola di San Servolo, Italia*
Nov 1	Due date for contributions to IAU IB 105
Nov 1	Due date for agenda items and documents for Officers' Meeting, January 2010
Nov 9-13	**IAU S268, *Light elements in the Universe***, *Geneva, Switzerland*
Nov 23-27	***Mathematics and Astronomy, a Joint Long Story****, Madrid Spain*
Nov 30-Dec 18	***International School for Young Astronomers 2009***, *St Augustine, Trinidad & Tobago, West Indies*
Dec 1	Due date for proposals for IAU Symposia in 2011
Dec 15	Deadline for nominations for the Peter and Patricia Gruber Foundation Cosmology Prize 2010

2012

Aug 20-31	**IAU XXVIII General Assembly**, *Beijing, China*

II.2. IAU EXECUTIVE COMMITTEE

II.2.1. IAU Officers' Meeting 2009-1. *Brief report*

The first 2009 IAU Officers' meeting took place on 12 January 2009 at the IAU Secretariat, Paris, France. Present were President Catherine J. Cesarsky, President-Elect Robert Williams, General Secretary Karel A. van der Hucht, Assistant General Secretary , Ian F. Corbett and IAU Executive Assistant Vivien A. Reuter.

The Officers expressed their appreciation for the progress made by the IAU Secretariat in renewing its procedures and activities in 2008. The present staff consists of Mme Vivien A. Reuter, Executive Assistant, Mme Maïténa Mitschler, data base assistant, and Mme Ginette Rude, part-time archive assistant. The Officers expressed their appreciation for the present state of the IAU data base

and web site, of which the maintenance and refurbishment is outsourced to ESO.

The Officers discussed the draft budget for the upcoming triennium 2010-2012 and will forward their recommendations to the EC and the National Members, together with proposed revisions and modifications of the Statutes, Bye-Laws and Working Rules.

On the IAU XXVII General Assembly preparations: the Officers took note of the latest report of the chair of the IAU XXVII GA NOC, Prof. Daniela Lazzaro and the progress reported therein.

The Officers expressed their satisfaction with the signing of the Memorandum of Understanding between the IAU and the UNESCO World Heritage Center and the creation of an IAU Commission 41 Working Group on *Astronomy and World Heritage* by Commission 41 vice-president Prof. Clive L.N. Ruggles.

The President, in her capacity as chair EC Working Group on the *International Year of Astronomy 2009*, informed the Officers of the progress of the IYA2009 preparations, notably those for the Opening Ceremony of the IYA2009, 15-16 January in Paris at the UNESCO Headquarters, and the explosion of national IYA activities in over 135 participating countries.

II.3. IAU GENERAL ASSEMBLIES

II.3.1. IAU XXVII General Assembly, 3 - 14 August 2009, Rio de Janeiro, Brazil

See **PART I**. For recent information and details on registration, visit the IAU XXVII GA web site: <www.astronomy2009.com.br/index.html>.

II.3.2. IAU XXVIII General Assembly, 20-31 August 2012, Beijing, China Nanjing

The web site of this General Assembly has been registered as:

< www.astronomy2012.com/ >. The site will open in due time.

II.3.3. IAU XXIX General Assembly, 2015. Deadlines for Proposals to Host

The IAU Executive Committee solicits proposals for hosting the IAU XXIX General Assembly in July-August 2015. Rules and guidelines are available at: <www.iau.org/administration/meetings/hosting_ga/>.

Complete bid books should reach IAU General Secretary Karel A. van der Hucht before the deadline of 1 April 2009.

II.4. SCIENTIFIC MEETINGS

II.4.1. IAU SYMPOSIA in 2009 (see details in IAU IB 102, July 2008)

IAU S260 ***The Role of Astronomy in Society and Culture***
Date and place: 19 - 23 January 2009, UNESCO, Paris, France

IAU S261 ***Relativity in Fundamental Astronomy***
Date and place: 27 April -1 May 2009, Virginia Beach, VA, USA

Coordinating Division: I
SOC chairs: Sergei A. Klioner (Germany) and P. Kennneth Seidelmann (USA).
SOC members: Nicole Capitaine (France), S. Antonio Elipe (Spain), Sylvio Ferraz Mello (Brazil), William M. Folkner (USA), Toshio Fukushima (Japan), Kenneth J. Johnston (USA), Michael Kramer (UK), François Mignard (France), Andrea Milani (Italy), Wei-Tou Ni (China Nanjing), Gérard Petit (France), Michael H. Soffel (Germany), David Vokrouhlicky (Czech Republic), and Clifford M. Will (USA).
LOC chair: Michael Efroimsky (US Naval Observatory, USA).
LOC members: John A. Bangert (USNO), George H. Kaplan (USNO), Brian J. Luzum (USNO), Kevin B. Marvel (AAS), Demetrios N. Matsakis (USNO), Alice K.B. Monet (USNO), Sean E. Urban (USNO), William H. Wooden (USNO), and Norbert Zacharias (USNO).
Editors: Sergei A. Klioner, Kennneth P. Seidelmann, & Michael H. Soffel
Contact: Sergei A. Klioner <sergei.klioner@tu-dresden.de>
URL: <http://www.aas.org/divisions/meetings/iau/>

Principal topics:
- astronomical reference frames in the relativistic framework
- relativistic modeling of observational data
- astronomical tests of relativity
- relativistic dynamical modeling
- relativity in astrodynamics and space navigation
- modern observational techniques in fundamental astronomy
- time measurement and time scales
- astronomical constants and units of measurements.

IAU S262 through S267, to be held during the IAU XXVII GA in Rio de Janeiro, Brazil, 3-14 August 2009: see PART I of this *Information Bulletin.*

IAU S268 ***Light Elements in the Universe***
Date and place: 9 -13 November 2009, Geneva, Switzerland

Coordinating Division: IV
SOC chairs: Corinne Charbonnel (Switzerland) and Monica Tosi (Italy)
SOC members: Beatriz Barbuy (Brasil), Yuri Izotov (Ukraine), Taka Kajino (Japan), David L. Lambert (USA), John Lattanzio (Australia), Paolo Molaro (Italy), H. Warren Moos (USA), Francesca Primas (Germany), Robert T. Rood (USA), and Suzanne Talon (Canada).
LOC chair: Corinne Charbonnel.
LOC members: Christina Chiappini, Miroslava Dessauges-Zavadsky, Sylvia Ekström, Michel Grenon, Nadège Lagarde, and Chantal Taçoy.
Editors: Corinne Charbonnel, Monica Tosi, Francesca Primas & Christina Chiappini
Contact: Corinne Charbonnel <corinne.charbonnel@obs.unige.ch>
URL: <http://obswww.unige.ch/iau268/>

Principal topics:
- results from the recent experiments on cosmic microwave background anisotropies
- primordial nucleosynthesis (standard and non-standard)
- LiBeB production and associated astrophysical sites
- measurements of the primordial D, 3,4He, and 7Li abundances
- measurements of 6Li, Be and B
- stellar knowledge to and from light elements
- production and destruction of light elements in stars
- evolution of the light elements in the Galaxy
- evolution of the light elements in the solar neighborhood
- spallation processes and the early galactic evolution.

For an overview of all IAU scientific meetings, see:
< www.iau.org/science/meetings/ >.

II.4.2. Regional IAU Meetings in 2008

II.4.2.1 **MEARIM 2008** (report in IB 102)

II.4.2.2 APRIM 2008 *10th Asian-Pacific Regional IAU Meeting*

3 - 6 August 2008, Kunming, Yunnan, China Nanjing

From 3rd through 6th August 2008, the 10th Asian-Pacific Regional IAU Meeting (APRIM) has been successfully hosted in Yun'An Hotel of Kunming in Yunnan Province, China. Details of the meeting are as follows.

Meeting Program

The opening ceremony

The opening ceremony of the 10th APRIM started from 8:30 a.m. on August 3rd, 2008. Prof. Yan LI, Chair of the Local Organizing Committee and Director of Yunnan Astronomical Observatory, presided over the opening ceremony; Prof. Gang ZHAO, Chair of the Scientific Organizing Committee and President of the Chinese Astronomical Society, addressed the opening, introducing the organization, themes, meaning and function of this meeting. Vice-Mayor of Kunming city, Ms. Xiaoshan LIAO and Deputy Director-General of Department of Science and Technology of Yunnan Province, Mr. Jianhua WANG were invited for the welcome speech. At last, Vice-President of IAU, Prof. Cheng FANG presented a speech representing IAU.

Plenary session

The plenary session was hosted on 3rd August 2008. During the one-day session, 12 world-renowned experts from Australia, Canada, China, China/Taipei, India, Japan, South Korea, Russia and United States presented invited talks covering the status and development of astronomy in China, science and technology of the FAST project, the International Year of Astronomy 2009, the supernovae legacy survey, ultraviolet universe, report of the HINODE observations, virtual observatory program developed in China and India, quasar spectroscopy, panchromatic spectral energy modeling of starburst galaxies, extragalactic stellar astronomy, large scale structure formation of the universe, frontier astrophysical problems from Taiwan, etc.

Parallel sessions

On 4th and 5th August, there were 8 parallel sessions, including 32 invited talks, 106 contributed talks and 80 posters.

Participation

The meeting hosted 108 participants from 17 countries other than China (including Hongkong) and China/Taipei, 16 participants from Hongkong SAR and China/Taipei, and 154 domestic participants from 22 institutes and universities in China, i.e., a total of 278 participants.

Gang Zhao, chair, 18 September 2008

II.4.3. Other meetings of astrophysical interest

Frontiers of Space Astrophysics: Gamma Ray Bursts & Neutron Stars, Recent Developments & Future Directions
March 30 - April 4, 2009
The New Library, Alexandria, Egypt
Co-sponsored by the IAU

Contact: Alaa Ibrahim <ai@space.mit.edu>
URL: <www.cfa.harvard.edu/events/2009/ns_grb/>

Astronomical Instruments from the Antikythera Mechanism to the de Dondi's Astrarium
29 July – 3 August 2009
Budapest, Hungary
Co-sponsored by the IAU

Contact: Efthymios Nicolaidis <e.nicolaidis@dhstweb.org>
URL: <www.antikythera-mechanism.gr/node/473>

Astronomy and its Instruments before and after Galileo
28 September 2009 - 3 October 2009, Venice, Italy
Co-sponsored by the IAU

Contact: Luisa Pigatto <luisa.pigatto@oapd.inaf.it>
URL: <web.oapd.inaf.it/venice2009/index.php>

Mathematics and Astronomy, a Joint Long Journey
23 - 27 November 2009, Madrid, Venice, Italy
Co-sponsored by the IAU

Contact: Rosa M. Ros <ros@ma4.upc.edu>
URL: <www.uned.es/074150/simposium09/>

For other meetings of astrophysical interest, see the International Astronomy Meetings List, maintained by Liz Bryson of the Canada-France-Hawaii Telescope Corporation: <www3.cadc-ccda.hia-iha.nrc-cnrc.gc.ca/meetings/>.

II.5. IAU PUBLICATIONS

II.5.1. IAU Highlights of Astronomy

Highlights of Astronomy, Volume 13
AS PRESENTED AT THE XXVth GENERAL ASSEMBLY OF THE IAU
Sydney, Australia, 13-26 July 2003

Ed. Oddbjørn Engvold
(San Francisco: ASP) ISBN: 1-58381-189-3, 2006

Highlights of Astronomy, Volume 14

AS PRESENTED AT THE XXVIth GENERAL ASSEMBLY OF THE IAU

Prague, Czech Republic, 14-25 August 2006
Ed. Karel A. van der Hucht
(Cambridge: CUP) ISBN: 978-0-521-89683-2, December 2007
URL: <journals.cambridge.org/action/displayIssue?jid=IAU&volumeId=2&issueId=14>

II.5.2. IAU Transactions

Transactions of the IAU, Volume XXVB

PROCEEDINGS OF THE XXVth GENERAL ASSEMBLY OF THE IAU

Sydney, Australia, 13 - 26 July 2003
Ed. Oddbjørn Engvold
(San Francisco: ASP) ISBN: 978-1-58381-647-9, 2007

Transactions of the IAU, Volume XXVIA

REPORTS ON ASTRONOMY 2003-2006

Ed. Oddbjørn Engvold
(Cambridge: CUP) ISBN: 0-521-85604-3, 2007
URL: <journals.cambridge.org/action/displayIssue?jid=IAU&volumeId=1&issueId=T26A>

Transactions of the IAU, Volume XXVIB

PROCEEDINGS OF THE XXVIth GENERAL ASSEMBLY OF THE IAU

Prague, Czech Republic, 14 - 25 August 2006
Ed.: Karel A. van der Hucht
(Cambridge: CUP) ISBN: 978-0-521-85606-5, November 2008
URL: <journals.cambridge.org/action/displayIssue?jid=IAU&volumeId=3&issueId=T26B>

Transactions of the IAU, Volume XXVIIA

REPORTS ON ASTRONOMY 2006-2009

Ed. Karel A. van der Hucht
(Cambridge: CUP) ISBN: 978-0-521-85605-8, January 2009
URL:
<journals.cambridge.org/action/displayIssue?jid=IAU&volumeId=4&issueId=T27A&iid=3578468>

II.5.3. IAU Symposium Proceedings published in 2008

As of 2004, starting with IAU S222, the IAU Symposium Series is being published by Cambridge University Press, Cambridge, UK (CUP).
E-version, see: <http://journals.cambridge.org/action/displayJournal?jid=IAU>.

Print version, see: <www.cambridge.org/uk/series/sSeries.asp?code=IAUP>.

IAU S250 ***Massive Stars as Cosmic Engines***
10 - 14 December 2007, Kauai, Hawaii, USA
Eds. Fabio Bresolin, Paul A. Crowther & Joachim Puls
(Cambridge: CUP) ISBN: 978-0-521-87472-4 (June 2008)

IAU S251 ***Organic Matter in Space***
18-22 February 2008, Hong Kong, China
Eds. Sun Kwok & Scott A. Sandford
(Cambridge: CUP) ISBN: 978-0-52188-982-7 October 2008

IAU S252 ***The Art of Modelling Stars in the 21st Century***
6-11 April 2008, Sanya, Hainan Island, China
Eds. LiCai Deng & Kwing Lam Chan
(Cambridge: CUP) ISBN: 978-0-52188-983-4 October 2008

IAU S255 ***Low-Metallicity Star Formation: From the First Stars to Dwarf Galaxies***
16-20 June 2008, Rapallo, Liguria, Italy
Eds. Leslie K. Hunt, Suzanne C. Madden, Raffaella Schneider
(Cambridge: CUP) ISBN: 978-0-52188-986-5 December 2008

For a complete list of IAU Symposium Proceedings, see <www.iau.org/Symposia_Colloquia.122.0.html>.

II.6. THE IAU AND THE PETER & PATRICIA GRUBER FOUNDATION

II.6.1. Gruber Cosmology Prizes

Information on the annual Gruber Cosmology Prize is available at <www.iau.org/PETER_AND_PATRICIA_GRUBER_FOUN.98.0.html>.

II.6.1.1 Gruber Cosmology Prize 2008

The Gruber Cosmology Prize 2008 has been awarded to J. Richard Bond, director of the Canadian Institute for Advanced Research Cosmology and Gravity Program, during a ceremony at the Harvard-Smithsonian Center for Astrophysics, Cambridge, USA, 17 September 2008. Bond is being honoured for ground breaking theoretical work on structure formation and evolution of the Universe. See <www.iau.org/public_press/news/release/iau0805/>.

II.6.1.2 Gruber Cosmology Prize 2009

The Gruber Cosmology Prize 2009 will be awarded during the Inaugural Ceremony of the IAU XXVII General Assembly in Rio de Janeiro, 3 August 2009.

II.6.1.3 Gruber Cosmology Prize 2010

Nominations of candidates for the Gruber Cosmology Prize 2010 can be submitted up to 15 December 2009. Nomination information is available at: <www.gruberprizes.org/Nominations/Cosmology.php>. General information on the annual Gruber Cosmology Prize is available at <www.iau.org/PETER_AND_PATRICIA_GRUBER_FOUN.98.0.html>.

II.6.2. PPGF Fellowships

With the aim to promote the science of cosmology and other branches of astronomy, the Peter & Patricia Gruber Foundation has created the PPGF Fellowship Programme. Funded by the PPGF, one Fellowship will be awarded every year, the next one in 2009. A Fellowship amounts to US$50,000 and will be given as a stipend to cover travel, subsistence and research expenses during a postdoctoral appointment for a period which is typically of one year duration, but may be extended to two years. The Fellowship will be awarded to an extremely promising, young astrophysicist, working in any field of astrophysics, either theoretical, observational or experimental. There are no limitations on nationality, but preference will be given to applicants from countries in difficult economic conditions. For more details, see: <www.iau.org/grants_prizes/gruber_foundation/fellowships/> .

II.6.2.1. PPGF Fellowship 2009

The deadline of application for the PPGF Fellowship 2009 is 1 March 2009. Instructions for application are available at the IAU web page: <www.iau.org/PETER_AND_PATRICIA_GRUBER_FOUN.98.0.html>

II.7. THE EC WORKING GROUP ON THE INTERNATIONAL YEAR OF ASTRONOMY 2009

II.7.1. Status Report

The year 2009 marks the 400th anniversary of Galileo's first inspirational telescopic observations. His discoveries shaped our worldview. To mark this occasion, the International Astronomical Union and the United Nations Educational, Cultural and Scientific Organization have initated what the United Nations has declared to be The International Year of Astronomy 2009

(IYA2009). Its purpose: to instill the same fascination with the night sky that Galileo felt, and to help people appreciate the wonders our Universe has to offer.

IYA2009 is a global endeavour, promoting astronomy and its contribution to society and culture. There is strong emphasis on education and public engagement. Excellent progress has already been made, with many thousands of people working towards making the Year a great success. This report outlines the status of its main projects and activities.

Participating Nations and Organisations
As of 14 December 2008, an impressive 135 National Nodes have signed up to participate in the IYA2009. Countless professional and amateur astronomers, educators, communicators and enthusiasts have invested time, resources and passion into organising regional activities. The full list can be consulted on the IYA2009 website: <www.astronomy2009.org/organisation/nodes/national/> .

The most recent National Nodes are Belarus, DPR Korea, Albania, Bhutan, Afghanistan, Cape Verde, Andorra, Cameroon, Moldova and Mali.

The IAU welcomes suggestions for "IYA2009 Single Points of Contact" from countries or organisations that are not as yet involved. Based on the report on the state of astronomy development by country, compiled by John Hearnshaw (IAU Commission 46), the IYA2009 Secretariat is particularly keen to establish contact with the following countries: Worldwide Development of Astronomy Programme Group[1]): Brunei, Barbados, Liechtenstein, Mauritius, Monaco and San Marino.

Astronomy, education and science outreach related organisations and institutions are also welcome to participate in the IYA2009. So far, 31 such organisations have signed up. The full list is posted on the IYA2009 website: <www.astronomy2009.org/organisation/nodes/organisational/> .
The most recently joined Organisational Nodes are IERN, ARENA, EuroAstro, SARA and IMO.

Organisational Associates
The IYA2009 Organisational Associates are organisations, institutions and agencies related to astronomy, space science and natural science that provide financial support for the global coordination of IYA2009. Please check the full list on the IYA2009 website:
<www.astronomy2009.org/organisation/structure/partners/organisationalassociates/>

[1] <iau46.obspm.fr/spip.php?article53&lang=enspip.php?article53&artsuite=0#sommaire_1>

The most recently joined Organisational Associates are ISRO, Incranet, NOT and ASI.

Media Partners
The IYA2009 Secretariat has established a network of media partners that will support and promote IYA2009 activities by providing coverage and publicity for the global and international projects: *Histor*y, *Planetarian-Journal of the International Planetarium Society, Sky & Telescope, Astronomy Now, Physics World, Astronomy Ireland, Astronomía, Redshift, Seed Magazine, Sky at Night Magazine, Cosmotoons* and *Taffy Entertainment.*

Resources
Over the past few months, the IYA2009 Secretariat has produced a wide array of resources that can be used by laypeople and participants in the IYA2009. These include trailers, brochures and presentations, easily accessible through the astronomy2009.org website: <www.astronomy2009.org/resources/>
The public is free to use them in activities and events during 2009.

IYA2009 Cornerstone Projects
In addition to the numerous local and regional projects, the International Year of Astronomy 2009 is supported by eleven Cornerstone projects. Based on specific themes, these global programmes collectively represent means to achieve the IYA2009's primary goals. The steady progress of these projects can be followed on their dedicated websites:

1. 100 Hours of Astronomy: <www.100hoursofastronomy.org>
2. The Galileoscope: <www.galileoscope.org>
3. Cosmic Diary: <www.cosmicdiary.org>
4. Portal to the Universe: <www.portaltotheuniverse.org>
5. She is an Astronomer: <www.sheisanastronomer.org>
6. Dark Skies Awareness: <www.darkskiesawareness.org>
7. Astronomy and World Heritage: <whc.unesco.org/pg.cfm?cid=281&id_group=21&s=home>
8. Galileo Teacher Training Program: <www.galileoteachers.org>
9. Universe Awareness: <www.unawe.org>
10. From Earth to the Universe: www.fromearthtotheuniverse.org
11. Developing Astronomy Globally: <www.developingastronomy.org>

IYA2009 Special Projects
While the focus of the global activities will rest on the Cornerstones, they are certainly not the only major projects that will contribute to realising the vision and goals of IYA2009. There is also a series of IYA2009 Special Projects:

- **The World at Night**: The World at Night will create and exhibit a collection of stunning photographs and time-lapse videos of the

world's most beautiful and historic sites against a night-time backdrop of stars, planets and celestial events. <www.twanight.org>

- **400 Years of the Telescope**: This project is an exciting multimedia celebration of Galileo's first telescopic observations of the cosmos, and the resulting journey of discovery for humanity. <www.400years.org>
- **The mutual phenomena of the Galilean satellites of Jupiter**: This citizen-scientist project invites the public to participate in the unique observation of the mutual phenomena of the Galilean satellites of Jupiter during 2009.
  <www.imcce.fr/hosted_sites/ama09/phemu09_en.html>
- **Around the World, Around the Sky**: This documentary is a journey of exploration around the world, visiting astronomical observatories that are working today, to understand their observations and discoveries of the Universe. Contact: Robert Pansard-Besson
  <robertpansard-besson@club-internet.fr> .
- **Exoplanet Hunters**: This documentary follows astronomers closely in their thrilling research, stressing human qualities as the scientists share their dreams and discoveries of exoplanets. Contact: Michel Gauriat
  <info@betaprod.fr> .
- **Celebrating the 1919 Eclipse at Principe**: The main goal of this project is to explain the importance of Eddington's 1919 Total Solar Eclipse expedition to the island Principe and how gravitational lensing is shaping our view of the Universe. Contact: Richard Ellis
  <rse@astro.caltech.edu> .
- **The Sky – Yours to Discover**: This project invites children and young people to gaze up at the sky and identify stars, imagine new constellations and create original stories.
  <www.museudaciencia.pt/index.php?iAction=Actividades&iArea=5&iId=18>

IYA2009 Special Task Groups

Several IYA2009 Special Task Groups have been set up to organise very specific events or actions throughout the Year, which will complement other global projects

- **New Year's Eve Events:** The main objective of this Special Task Group was to announce that 2009 is the International Year of Astronomy on 31 December 2008.
- **Opening Ceremony:** This ceremony took place on 15-16 January 2009 at UNESCO headquarters in Paris.
  More information: www.astronomy2009.org/opening
- **EU 7th Framework Programme:** This task group investigates possible European Commission calls for proposals within the framework of the 7th Research and Development Framework Programme (FP7).

- **Kepler:** This Group celebrates the 400th anniversary of Kepler's *Astronomia Nova*, the cornerstone of modern astronomy, in the launch year of NASA's Kepler mission to seek Earth-sized extrasolar planets.
- **Solar Physics:** This Special Task Group aims to communicate the particular relation of the Sun with the rest of the Universe, and thereby the place of solar science in astronomy.
  More info: www.solarastronomy2009.org
- **Philately:** This Special Task Group will maintain a global philatelic checklist of postal authority releases generated in celebration of the IYA2009 and/or astronomy in general.
- **New Media:** This Task Group provides online astronomy experiences where people work, play and learn; creates content to expose people to astronomy; distributes content through active and passive channels; and uses a diverse suite of technologies to reach people on multiple platforms and in a range of online settings.
- **Galileo:** The aim of this task group is to raise Galileo Galilei's public profile through intra-community communication, formal and informal education and public outreach.
- **Extrasolar Planets:** This Task Group operates in an area that is both easy for the general public to understand and one of the greatest scientific adventures of the 21st century: extrasolar planets and the search for life on these planets. The Task Group has created and will maintain www.exoplanet2009.org, an international, multilingual website.
- **Closing Ceremony:** As the IYA2009 comes to an end, we will join in a celebration of astronomy and astronomical experiences.
- **Evaluation:** IYA2009 is an excellent opportunity to increase public understanding and awareness of astronomy. But will it achieve its objectives? What lessons will we learn?

Conclusion

Although 1 January 2009 marked the "real" beginning of the IYA2009, this large worldwide science outreach and education programme began more than six years earlier with the IAU's initiative during the IAU General Assembly in 2003. The IYA2009 aims to unite nations under the umbrella of astronomy and science, while at the same time acknowledging cultural, national and regional diversity. Never before has such a network of scientists, amateur astronomers, educators, journalists and scientific institutions come together. By the time that the IYA2009 officially kicked off in Paris on 15 January 2009, over 5000 people were directly involved in the organisation of IYA2009 activities across the globe. The IYA2009 will continue far beyond 2009, as the momentum built by its projects and activities continues to promote astronomy for many years to come.

Garching-bei-München, Germany, 22 January 2009

Pedro Russo *Coordinator IAU IYA2009 <prusso@eso.org>*
Mariana Barrosa *Coordination Assistant IAU IYA2009 <mbarrosa@eso.org>*
Lars Lindberg Christensen *Secretary EC WG IAU IYA2009, IAU Press Officer <lars@eso.org>*
Catherine Cesarsky *President IAU, Chair IAU EC WG IYA2009*

II.7.2. UNESCO REPORT OPENING CEREMONY

Source: UNESCO Flash Info N° 005-2009 , 16-JAN-2009

Mr Koïchiro Matsuura, Director-General of UNESCO, opened the Global Launch ceremony of the International Year of Astronomy (2009), which took place at UNESCO Headquarters on 15 and 16 January.

The Year, a joint initiative of UNESCO and the International Astronomical Union (IAU), which was proclaimed through Resolution 62/200, adopted by the United Nations General Assembly in December 2007, has the ultimate aim of to encourage citizens of the world, especially young people, to rediscover the universe in which we live and to promote widespread access to the basic sciences and to increase scientific literacy, especially among youth. The Year also aims to promote the role of women in astronomy and the sciences and help developing countries strengthen their capacity in the astronomical sciences.

Also participating in the Global launch opening ceremony were Mrs Catherine Cesarsky, President of the IAU, Mr Reynald Seznec President and CEO of Thales Alenia Space, and Mr Giuseppe Pizza, Vice-Minister for Education, Universities and Scientific Research of Italy. Mr Jean-Michel Jarre, UNESCO Goodwill Ambassador for the Year, acted as master of ceremonies for the event.

In his address, Mr Matsuura began by noting that "the celebration of the International Year of Astronomy (IYA) is the culmination of the vision and hard work of many partners." He continued by paying tribute to the IAU, whose leadership had been instrumental in making this vision a reality.

The Director-General went on to underscore that for the past four hundred years, since Galileo Galilei first directed his telescope to the night sky, it had largely been astronomers and astrophysicists who have enjoyed the knowledge and understanding of the universe, its stars and planets, and their link to and impact on our daily life. He highlighted that the Year "provides us with a

fantastic opportunity to expand this knowledge, and enable all people to explore the wonders of the universe and appreciate the benefits of its study for society."

Mr Matsuura underlined the fact that Astronomy has had a profound impact on technological, social and economic development. He noted that "it is clear that a better understanding of the origins of the universe will lead us to better comprehend and manage our own planet, the Earth."

The Director-General then drew attention to some of the main events spanning the Year, notably the eleven cornerstone projects of the Year, such as the worldwide observation of "100 Hours of Astronomy", a round-the-clock awareness-raising event spanning all the continents, scheduled to take place from 2 to 5 April, and the "Dark Skies Awareness" project, which aims to preserve and protect dark night skies in places such as urban cultural landscapes, national parks and sites connected with astronomical observations.

Mr Matsuura also highlighted UNESCO's thematic initiative, "Astronomy and World Heritage", another cornerstone project for the Year, whose main objective is to establish a link between science and culture and acknowledging the cultural and scientific values of properties connected with astronomy.

The Director-General ended his intervention by underscoring that the sky belonged to all of mankind, regardless of beliefs and religions and was therefore a tool for peace and understanding among the peoples of the Earth.

II.8. REPORTS OF IAU DIVISIONS, COMMISSIONS, WORKING GROUPS & PROGRAM GROUPS

Recent triennial reports of the IAU Divisions, Commissions, Working Groups and Program Groups have been published in:

REPORTS ON ASTRONOMY 2006-2009
Transactions of the IAU, Volume XXVIIA
Ed. Karel A. van der Hucht
(Cambridge: CUP) ISBN: 978-0-521-85605-8, January 2009
URL:
<journals.cambridge.org/action/displayIssue?jid=IAU&volumeId=4&issueId=T27A&iid=3578468>

II.8.1. DIVISION XII / COMMISSION 41. A NEW WORKING GROUP ON *ASTRONOMY AND WORLD HERITAGE*

On 2008 October 30, a formal Memorandum of Understanding (MoU) was signed between the IAU and UNESCO agreeing a number of ways in which the two organisations will work together to advance UNESCO's Astronomy and World Heritage Initiative <whc.unesco.org/en/activities/19> and ensure its full implementation. This initiative aims to ensure the recognition, promotion and preservation of achievements in science through the nomination to the World Heritage List (WHL) of properties whose outstanding significance to humankind derives in significant part from their connection with astronomy.

Following the signing, a new Working Group of Commission 41 (*History of Astronomy*) has been set up, which is charged with fulfilling the IAU's commitments under the MoU. Its Terms of Reference are:

1. To work on behalf of the IAU to help ensure that cultural properties and artefacts significant in the development of astronomy, together with the intangible heritage of astronomy, are duly studied, protected and maintained, both for the greater benefit of humankind and to the potential benefit of future historical research.

   (The range of properties and objects in question includes ancient sites and monuments with demonstrable links to the sky (such as Stonehenge), instruments of all ages, archives, and historical observatories.)
2. To fulfil, on behalf of the IAU, its commitments under the Memorandum of Understanding with UNESCO on Astronomy and World Heritage.
3. To liaise with other international and national bodies concerned with astronomical history and heritage, in so far as their interests and activities impinge on these aims, to help achieve these aims.
4. To work, in conjunction with IAU C41 (History of Astronomy), IAU C46 (Education) and other Commissions and Working Groups within the IAU as appropriate, to enhance public interest, understanding, and support in the field of astronomical heritage.

The first main task for the IAU WG is to work with the International Committee on Monuments and Sites (ICOMOS) to produce a global Thematic Study on astronomical heritage. This will provide the basis upon which UNESCO will produce criteria for judging WHL nominations relating to astronomy. A detailed work plan is currently being finalised with UNESCO and ICOMOS and will then be circulated to all those who have expressed an interest in joining the WG. Any others who are prepared to be actively involved are invited to contact myself <rug@le.ac.uk> or the C41 Secretary Rajesh Kochhar <Rkochhar2000@yahoo.com>.

Clive L.N. Ruggles, WG Chair, 1 December 2008

II.9. IAU EDUCATIONAL ACTIVITIES

II.9.1. 31th ISYA TRINIDAD & TOBAGO 2009

Venue: University of the West Indies (UWI), St Augustine, Trinidad & Tobago
Date: 30 November - 18 December 2009
Contacts:
Dr. Jean-Pierre DeGreve, chair PG-ISYA <degreve <jpdgreve@vub.ac.be>
Dr. Shirin Haque, director ISYA2009 <shirin.haque@gmail.com>
URL: <sta.uwi.edu/fsa/physics/>
Preliminary program and lecturers:
- Planetary astrophysics: D. Schulze-Makuch (USA)
- (Eclipsing) Binary stars, and exoplanet detection: E. Guinan (USA)
- Stellar evolution and sessions for secondary school teachers and the general public: J-P De Greve (Belgium)
- Extrasolar planets, planetary & atmospheric science, astrobiology: G. Tinetti (UK)
- Data reduction, queries of databases and related practical activities: R. Barba (Chile)
- Stellar atmosphere (radiative transfer), stellar fundamental parameters, sessions for secondary school teachers: M. Gerbaldi (France)

II.9.2. COSPAR CAPACITY BUILDING WORKSHOP 2009

COSPAR CBW on *Lunar and Planetary Surface Science,* co-sponsored by the IAU.
Venue: Harbin Institute of Technology, Harbin, China.
Date: 6 - 19 September 2009.
Contact: <norbert.koemle@oeaw.ac.at>
URL: <astro.hit.edu.cn/cospar2009workshop>
Closing date for applications: 28 February 2009.

II.10. MEMBERSHIP OF THE IAU

II.10.1. DECEASED MEMBERS

The Union is saddened to learn that the following members and former members passed away, as far as reported to the IAU Secretariat:

Henri **ANDRILLAT** (19..-2009), France, 8 January, 2009
Pierre **BACCHUS** (1923-2007), France, 2007
Elihu **BOLDT** (1931-2008), United States, 12 September, 2008
Angelo **BONIFAZI** (1942-2006), United States, 19 April, 2006
Ronald N. **BRACEWELL** (1921-2007), Australia, 12 August, 2007

James William **BRAULT** (1932-2008), United States, 1 November, 2008
Mary T. **BRUCK** (1925-2008), United Kingdom, 11 December, 2008
Peter Stephen **BUNCLARK** (1954-2008), UK, 10 December, 2008
Alessandro **CACCIANI** (1938-2007), Italy, 9 July, 2007
Henri **DEBEHOGNE** (1930-2007), Belgium, 6 December, 2007
Bryce S. **DeWITT** (1923-2004), United States, 23 September, 2004
James N. **DOUGLAS** (1935-2006), United States, 20 August, 2006
Frank K. **EDMONDSON** (1912-20..), United States, 20..
Anthony P. **FAIRALL** (1943-2008), United Kingdom, 23 November, 2008
Manuel **FORESTINI** (1963-2003), France, 11 March, 2003
David B. **FRIEND** (1954-2008), United States, 22 May, 2008
Henri L. **GICLAS** (1910-2007), United States, 2 April, 2007
Martha L. **HAZEN** (1931-2006), United States, 23 December, 2006
Eleanor Francis **HELIN** (19..-2009), United States, 26 January, 2009
James Stanley **HEY** (1909-2000), United Kingdom, 27 February, 2000

Wilhelmina **IWANOWSKA** (1905-1999), Poland, 16 May, 1999
Sveneric **JOHANSSON** (1942-2008), Sweden, 10 October, 2008
Joseph **KLARMANN** (1929-2006), United States, 21 February, 2006
Howard Hugh **LANNING** (1946-2007), United States, 20 December, 2007
John **LINSLEY** (1925-2002), United States, 15 September, 2002
Valentin I. **MAKAROV** (1936-2006), Russian Federation, 7 August, 2006
Julian C.D. **MARSH** (1927-20..), United Kingdom, 20..
Cesar **MENDOZA-BRICENO** (1962-2008), Venezuela, October 2008
Lyudmila A. **MITROFANOVA** (1915-2002), Russia, 21 December, 2002
Vitalij A. **NAUMOV** (1929-2008), Russian Federation, 4 December, 2008
John David **NORTH** (1934-2008), United Kingdom, 31 October, 2008
Robert **NOVICK** (1923-2007), United States, 6 May, 2007
Omer **NYS** (1931-2007), Belgium, 2007
Graham J. **ODGERS** (1923-2008), Canada, 15 June, 2008
Steven J. **OSTRO** (1946-2008), USA, 15 December 2008
Laura E. **PASINETTI** (1935-2006), Italy, 14 September, 2006
Mirek J. **PLAVEC** (1925-2008), United States, 23 January, 2008
Zdenek **POKORNY** (1947-2007), Czech Republic, 5 December, 2007
Viktor S. **POPOV** (1935-2008), Russian Federation, 19 March, 2008
Heino I. **POTTER** (1930-2007), Russian Federation, 22 May, 2007
Françoise **PRADERIE** (1938-2009), France, 28 January, 2009
Edmond M. **REEVES** (1935-2008), United States, 8 August, 2008
Sjur **REFSDAL** (1937-2009), Norway, 29 January, 2009
Claude **RIVENQ** (19..-2009), France, January 2009
Ludmila **RUSU** (1930-2003), Romania, 2003
Edwin E. **SALPETER** (1924-2008), United States, 2008
Leonid M. **SHULMAN** (1937-2007), Ukraine, 5 October 2007
Vyacheslav I. **SLYSH** (1936-2008), Russian Federation, 23 September, 2008

Philip M. **SOLOMON** (1941-2008), United States, 30 April 2008
Barry E. **TURNER** (1939-2008), United States, 10 May, 2008
Tom **Van FLANDERN** (1940-2009), United States, 9 January 2009
Leon P. **Van SPEYBROECK** (1935-2002), United States, 25 December 2002
John Archibald **WHEELER** (1911-2008), United States, 13 April, 2008
Gerald James **WHITROW** (1912-20..), United Kingdom, 20..
Tor **WIEDLING** (1922-2006), Sweden, 8 December, 2006
John Paul **WILD** (1923-2008), Australia, 10 May 2008
Andrew S. **WILSON** (1949-2008), United Kingdom, 24 May, 2008
James Ricker **WILSON** (1922-2007), United States, 14 August, 2007
Jörn Erhard **WINK** (1942-2000), Germany, 5 August, 2000

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INTERNATIONAL ASTRONOMICAL UNION
UNION ASTRONOMIQUE INTERNATIONALE

The International Astronomical Union (IAU) was founded in 1919 to promote and safeguard the science of astronomy in all its aspects through international cooperation. Operating through its scientific bodies - 12 Divisions, 40 Commissions and some 75 Working and Program Groups, the IAU covers the whole spectrum of astronomy. The IAU currently has almost 10,000 individual members distributed over 87 countries. Of those, 63 countries are National Members. The IAU is member of the International Council for Science (ICSU).

The organization of scientific meetings is the IAU's key activity. Every year, the IAU sponsors nine international Symposia. The IAU Symposium Proceedings series is the flagship of the IAU publications. Every three years, the IAU holds its General Assembly. Six of the IAU Symposia of that year are incorporated in the scientific programme of the GA. Each General Assembly further offers some 25 Joint Discussions and Special Sessions, the proceedings of which are published in the Highlights of Astronomy series. The reports of the GA Business Meetings are published in the Transactions of the IAU - B series. All IAU proceedings are published by Cambridge University Press.

Among the other tasks of the IAU are the definition of fundamental astronomical and physical constants; unambiguous astronomical nomenclature; promotion of educational activities in astronomy; and early informal discussions on the possibilities for future international large-scale facilities. Furthermore, the IAU is the sole internationally recognized authority for assigning designations and names to celestial bodies and their surface features.

The IAU works to promote astronomical education and research in developing countries through its Program Groups on International Schools for Young Astronomers (ISYA), on Teaching for Astronomy Development (TAD), and on World Wide Development of Astronomy (WWDA), as well as through joint educational activities with COSPAR and UNESCO.

The IAU web site provides on-line information on the Union's activities and links to the web sites of the IAU Divisions, Commissions, Working Groups, and Program Groups. Contact with the IAU membership is maintained through this Information Bulletin, published twice per year, with a paper version as well as an e-version, available via the IAU web site.

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Cover picture:
Top: Ring Nebula (M57). Credit: Astro-Cooperation – Stefan Heutz / Wolfgang Ries
Bottom: 4.2m SOAR Telescope, Cerro Pachon, Chile

Printed and distributed on behalf of the IAU by
Presse Pluriel – BP 90 – 75961 Paris cedex 20 – France